Gleanings in Bee Culture

ESTABLISHED 1873

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SEPTEMBER, 1935

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5-lb. pails, per carton of 50	3.40
10-lb. pails, per reship. case of 6	.80
10-lb. pails, per carton of 50	4.90
60-lb. cans, in bulk, each	.34
60-lb. cans, per case of 2 cans	1.00
60-lb. cans, per carton of 16	5.35

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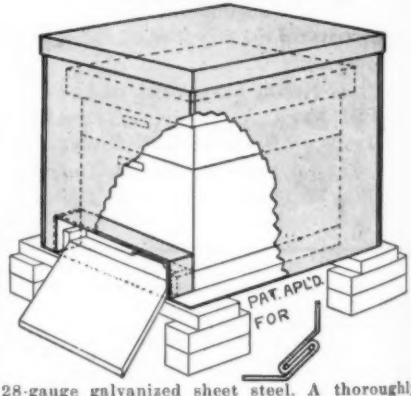

28-gauge galvanized sheet steel. A thoroughly proven packing case. In use from Maine to South Carolina. Case includes 4 sides with sliding seams, cover, entrance guard, and at extra price a metal bottom if desired. Size of packing case, 21¾ in. wide by 25½ inches long by 21¾ in. high. Made only for standard 10-frame hive with super. Approved by large beekeepers. Packs flat in small space for shipping and storing. Makes packing a pleasure. Should last a lifetime. Price, $2.75 each, for single case, and $2.50 each in lots of five. Metal bottoms, 25c each extra.

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Falconer, New York

The Monthly Honey Market

MARKET NEWS SERVICE
United States Department of Agriculture, Bureau of Agricultural Economics

Semi-monthly Report
Information from Producing Areas (first half of August).

California Points: Southern California: The weather has been generally clear with temperatures ranging from normal to considerably above normal, especially in the interior valleys, causing the bees to carry much water to keep the hives cool. Very little rain has fallen during this period. The main honey flow is about over, and is lighter than was expected owing to the lack of late rains. Plants dried up quickly after coming into bloom, thus cutting short the flow. The production from various wild flowers along the coast has been unexpectedly good, however, ranging 30-60 pounds to the colony. Extracting is about over, with widely varying yields. Beekeepers report ranges from 60 to 150 pounds from sage-buckwheat, averaging perhaps 100 pounds, the lighter yields being from the Desert Slope, where the drouth most seriously injured the roots of the plants; with 50 pounds from sage and 90 pounds from mesquite. Wild buckwheat is still blooming but producing little nectar. Honey prices have been barely steady to slightly weaker on the darker grades, but the lighter grades, especially of orange, have been firm to slightly stronger. Beekeepers have been holding orange honey for higher prices, but offerings of other types of honey were moderate to liberal. Eastern demand has been light and demand as a whole has continued rather slow. Practically no sales reported for export. Sales by beekeepers at country points reported as follows, per lb.: Orange, water white, mostly 5-5⅛c, few 5¼-6c; extra white, 5c; few, 5⅛-5¼c; white, 4½-4¾; sage water white, mostly 5-5⅛c; extra white, 4½-4¾c; few, 4⅞c; white mostly 4-4⅛c; few, 4¼-4½c, and one car in 10-lb. cans, 7c; sage-buckwheat, extra light amber, 3¾-3⅞c; few, 3⅝c; light amber, 3½-3⅝c, some 3⅜c. Beeswax has been slightly stronger with demand fairly good and with most sales 17-17½c; few sales fancy capping wax high as 18c per lb. delivered Los Angeles. Imperial Valley—Bees were late in building up and the colonies are still uneven in numbers. During the past month, however, there has been a good flow. Recently butterflies have been instrumental in curtailing the alfalfa flow. Bees are still bringing in honey from tamarisk. Brood rearing is still heavy. Few sales reported of light amber to extra light amber alfalfa at mostly $4.50 per case of 120 lbs.; few sales, $4.25, but with most of the crop held for higher prices. Central California—The weather has been very warm, and as rainfall has been negligible, many plants, including spikeweed, dried up earlier than normally. Most colonies have been moved from the sage-buckwheat ranges to work on cotton, alfalfa, spikeweed and lippia in the valleys. Blue curl is abundant and the outlook is for a good crop from this source and from jack clover. Colony yield has varied widely, some beekeepers reporting as much as 150 pounds to the colony from all sources; others much less. Beekeepers are receiving in ton lots or more at country points, per lb.: Sage white to water white, 4¾-5c; mostly 5c; extra white orange, 5c; sage-buckwheat, light amber, 3¼-3¾c; extra light amber, mostly 3¾c; light amber alfalfa, 3½-3¾. **The beeswax market** is dull, with good yellow wax bringing 16-16½c per lb., delivered San Francisco or Oakland. Northern California—Colonies are generally in good condition though some have been weakened by arsenical dust spray. Cool weather has held back the thistle flow but the crop so far seems to be a little better than that of the past two years. Some beekeepers reporting 30 pounds from thistle already. Alfalfa ranges from normal to practically a failure in different parts of the area and some beekeepers have already taken off 40 pounds of alfalfa honey. Creeping sage has yielded 40 pounds, miscellaneous mountain plants 40 pounds, and honeydew 30 pounds. The color of the thistle honey that has been taken off is white and the body is heavy. Very few recent sales reported.

Pacific Northwest: West of Cascades—The numerous cloudy and partly cloudy days, with temperatures occasionally higher than normal, are said to be curtailing fireweed production and reports of the fireweed yield range rather widely. Cold weather during July also cut short the fireweed flow. Fireweed is expected to continue to yield nectar, however, until the first of September, which is about two weeks later than usual. In the valleys a light flow is now on from alfalfa, red clover and various weeds. Yields of 50 pounds to the colony reported from various valley plants. Beeswax is being quoted at 16c, few 16½c per lb. delivered Portland. East of Cascades—In the Yakima Valley the weather has been about normal. The second cutting of alfalfa was generally harvested before much bloom was available for the bees, and sweet clover is past its best bloom. However, bees are having fair pasturage, though they are not storing as rapidly as a few weeks ago. Extracted in 60s is quoted at 5 5-6c per lb. Further east in this section colonies are building up rapidly. Honey production has about stopped for the time being because plants are nearly dried up, but bees are working a little on sweet clover, alfalfa, tarweed and other plants. Yields of 30 to 40 pounds to the colony have already been taken off.

Intermountan Region: The movement of new crop honey has so far been light and extracting to date has not been heavy. The crop on the whole is below that anticipated a few weeks ago, due principally to drouth, spray poisoning, grasshoppers, and the alfalfa weevil. The quality of this year's crop is variable, with many areas reporting a darker grade of honey than usual. Prices are irregular, some areas reporting that the market is opening lower than a year ago, while in other sections there appear to be a strengthening of the market. Sales reported, per lb.: White to water white sweet clover and alfalfa, ton lots, 5-5½c; few higher; 60s, 5½-6½c, small pails, 7-8c; carload, 6.1c; 1 car light amber in 60s, 5¾c. Bulk comb, 5-lb. pails, 10c per lb. Beeswax, 15-17c per lb. for crude wax.

Southwestern States: South central and southwestern Texas: The honey flow is about over for the season because of the continued hot, dry weather. Cotton is blooming but the cotton flow is very light. Many bees were poisoned by the spray used on cotton. Occasional reports received, however, of a good crop. Sales reported, light amber extracted, 1-gallon pails, 5c per lb.; smaller pails, 8c; bulk comb light amber mesquite-cotton-horsemint, 9-10c per lb. East Texas—Leaf worms have been bad on cotton, and some colonies have suffered from poisoning, but cotton on the whole has yielded well. Sales reported of light amber extracted 60s, 6c per lb.; small pails, 6-8c per lb.; bulk comb glass jars, 16c per lb. West Texas—A light flow is now on from cotton, but considerable damage is reported from spray poisoning. Beekeepers generally are holding their honey for

prices higher than the 4½c per lb. that is reported offered. Southeast Texas—Beekeepers whose main source is cotton have suffered severe losses during the past month, but where other sources of nectar are available bees are in good shape and storing considerable honey. Most hives are well filled and if extracted at once bees will have a chance to fill up on white top milkweed, which is very abundant. Demand for honey has been good, but prices are getting lower.

Summary—Temperatures have been above normal during this whole period. Rainfall has been rather heavy in the Southeast, and locally heavy in parts of the Southwest, the upper Ohio valley, the lake region and part of New York. Rainfall continues scanty over most of the rest of the country, especially in the plains area and the intermountain states. Almost everywhere beekeepers are reporting yields below those anticipated earlier because of the hot, dry wather which shortened the flow. Fall plants are not expected to yield much in the plains area but in the east central states a fall flow is anticipated. Swarming has continued much later than usual in many sections. New crop honey is selling rather slowly, though inquiries appear to be increasing. Prices in some sections are opening below those of last year. Comb honey appears to be light almost everywhere, with fairly good demand reported. Exports continue negligible.

Monthly Report of Honey Producers

Early in August we sent the following questions to honey producers: 1. How does the honey flow, if any, thus far compare with normal? Give answer in per cent. 2. What is your estimate at this time of the 1935 honey crop in your region as compared with the average during the past five years? Give answer in per cent. 3. At what price has honey been sold or contracted for, if any, in large lots (carload or less) in your locality during the past month for (a) extracted honey, per pound? (b) comb honey, fancy and No. 1, per case? 4. What are prices when sold to grocers in case lots of (a) extracted honey in 5-lb. pails, or other retail packages in terms of 5-lb. pails? (b) Comb honey, fancy and No. 1, per case? 5. What is the retail price to consumers in your locality of (a) extracted honey in 5-lb. pails, or other retail packages in terms of 5-lb. pails? (b) Comb honey, fancy and No. 1 per section? 6. How is honey now moving on the market in your locality? Give answer in one word, as slow, fair or rapid. 7. Is there any of last year's honey left in the hands of producers in your locality? If so, what per cent of last year's crop was carried over? The answers returned are tabulated as follows:

State Name.	Honey flow.	Estimate 1935 crop.	Carload lots. Ex.	Comb.	To grocers. Ex.	Comb.	To retailers. Ex.	Comb.	Movement.	1934 holdover.
Ala. (J. M. Cutts)	..	..	..	..	$.55	..	$.65	..	Fair	0
Ala. (J. C. Dickman)	80	80	..	..	.45	..	.55	..	Fair	..
B. C. (A. W. Finlay)	115	150	.10	..	.60	..	.78	..	Rapid	0
Calif. (L. L. Andrews)	100	200	..	..	..	..	.62	.13	Fair	0
Calif. (F. J. Edwards)	120	100	..	..	.37½	..	.45	..	Fair	..
Colo. (O. E. Adcock)	130	..	.05	2.50	.45	3.25	.55	.15	Fair	0
Colo. (J. A. Green)	85	90	.05	3.00	..	3.00	.45	.12	Fair	0
Conn. (Allen Latham)	30	30	..	..	.75	5.00	1.00	.27	Fair	20
Conn. (A. W. Yates)	75	75	.06	3.25	.70	4.25	..	.30	Slow	..
Fla. (C. C. Cook)	100	100	.06	..	.40	..	.55	..	Fair	0
Fla. (H. Hewitt)	10	10	..	..	.50	..	.65	..	Fair	..
Ga. (J. J. Wilder)	90	125	.06	..	.45	..	.60	..	Fair	0
Ida. (R. R. Isbell)	110	100	.05½	..	.35	..	.49	..	Fair	0
Ill. (A. L. Kildow)	..	..	..	..	..	..	.50	..	..	0
Ind. (Jay Smith)	75	75	..	..	..	..	.60	.15	Slow	0
Ind. (T. C. Johnson)	80	90	..	..	.50	3.60	.60	.20	Fair	0
Ind. (E. S. Miller)	100	120	..	..	.47½	3.60	.60	.20	Fair	0
Iowa. (E. G. Brown)	20	30	.04¾	..	..	..	.65	..	Fair	0
La. (E. C. Davis)	50	60	.06¼	..	.40	..	.60	..	Fair	0
Me. (O. B. Griffin)	100	125	..	..	..	4.75	..	.27	Slow	1
Md. (S. G. Crocker, Jr.)	100	100	..	..	.60	3.00	.75	.25	Slow	0
Mich. (Ira D. Bartlett)	100	100	..	..	.45	..	.60	..	Fair	0
Mich. (L. S. Griggs)	80	70	..	..	.40	2.50	.55	..	Slow	0
Mich. (E. D. Townsend)	60	60	.07	..	..	..	..	..	Fair	0
Minn. Francis Jaeger	80	80	.06	..	..	..	..	..	Rapid	0
Minn. (F. W. Ray)	90	100	.06½	..	.45	..	.55	..	Fair	0
Nebr. (J. H. Wagner)	40	40	.06	2.40	.50	3.00	.69	.15	Slow	0
Nev. (Mrs. E. G. Norton)	40	50	..	..	..	..	..	..	..	0
N. Y. (Adams & Myers)	35	75	..	..	.50	..	.75	.26	Fair	0
N. Y. (G. B. Howe)	62½	50	..	..	.50	..	.75	.20	Fair	..
N. Y. (F. W. Lesser)	40	40	.07	..	.45	..	.60	..	Fair	0
N. Y. (N. L. Stevens)	60	60	..	..	..	..	.60	.15	Fair	0
N. C. (C. S. Baumgarner)	100	100	..	..	.70	..	.85	.25	Fair	0
N. C. (W. J. Martin)	100	100	.06	..	.65	..	.85	.20	Fair	0
Ohio. (F. Leininger)	50	50	.07	..	..	..	..	..	Fair	0
Ohio. (J. F. Moore)	50	50	.07	..	.50	3.50	.65	.18	Slow	..
Ohio. (R. D. Hiatt)	60	70	..	..	.55	3.50	.70	.20	Fair	0
Pa. (D. C. Gilham)	100	110	..	..	.70	3.75	1.00	.25	Slow	15
Pa. (H. B. Kirk)	60	60	..	..	.60	3.00	.85	.20	Slow	0
S. C. (E. S. Prevost)	25	25	..	..	.60	..	.75	..	Slow	0
S. D. (L. A. Syverud)	..	100	..	..	.48	4.00	.64	.20	Slow	0
Tenn. (J. M. Buchanan)	100	125	..	..	..	..	..	.20	Fair	0
Tenn. (W. L. Walling)	100	110	..	..	.75	..	1.00	..	Fair	0
Texas. (J. N. Mayes)	50	40	..	..	.30	..	..	..	Fair	0
Texas. (H. B. Parks)	100	100	..	..	.40	..	.50	..	Fair	0
Vt. (Phillip Crane)	95	90	..	..	.80	4.00	1.00	.25	Slow	0
Va. (T. C. Asher)	50	80	..	..	.50	3.00	.70	.18	Fair	0
Wash. (G. W. B. Saxton)	50	50	..	..	.42	..	.49	..	Fair	0
W. Va. (W. C. Griffith)	125	125	..	..	.60	2.40	.75	.15	Slow	0
Wis. (Jas. Gwin)	100	100	.06	..	.42½	..	.55	..	Fair	0

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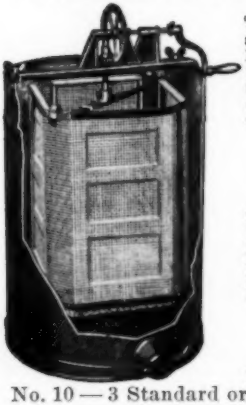

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No. 14	4 Standard or 8 Half Depth	9⅝ x 16	48 lbs.	14.25

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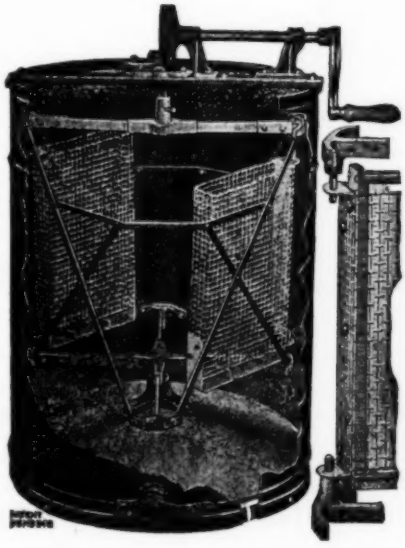

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Removable Reversible Baskets

can be lifted out to disinfect in boiling water, in disease control. This is important for your protection. An ounce of caution is worth a pound of cure.

Not a drop of solder used in basket and reel construction. Riveted to last, can't come apart.

Have you had experience trying to resolder metal parts that have been covered with honey? Don't go through that again. Try a Woodman all-riveted extractor. All sizes and capacities from bench size to power radials.

A. G. Woodman Company
GRAND RAPIDS, MICH., U. S. A.

Honey Containers

FRICTION TOP PAILS AND CANS—

In dustproof cartons. Every can tested under water for leakage. Equipped with non-pull out bails.

2½-lb. size	$3.80 per 100
5-lb. size	3.40 per 50
10-lb. size	4.90 per 50

5-GALLON CANS—

With 2½-inch screw caps. High quality cans. Use our cans in corrugated cartons. They comply with traffic specifications and are cheaper.

1—60-lb. can in corrugated case	$0.42 each
2—60-lb. cans in wood case	$1.00 per case

GLASS JARS—SUNBURST STYLE—

Clear brilliant flint glass. The most attractive jars on the market.

24—½-lb.	$0.67 per case
24—1-lb.	.88 per case
12—2-lb.	.60 per case
12—1-qt. E. Z. Carry (with bail)	.85 per case

COMB HONEY WRAPPERS AND CARTONS—

Dress up your comb honey in these attractive packages.

Flat Revelation	$3.95 per 500
Bag Revelation	4.05 per 500
Flat Unprinted	2.50 per 500
Window Cartons	$5.50 per 500; $10.00 per M.
Corrugated Shipping Cases	$1.25 per 5

LILY TULIP NESTRITES (Paper Cups)—

Economical packages—worth the money.

½-lb. size	$12.80 per M.
¾-lb. size	13.00 per M.
1-lb. size	17.40 per M.

Discounts—On orders for $50.00 or more, 5% discount; $100.00 or more, 10% discount. All prices f. o. b. Hamilton, Ill, or Keokuk, Iowa.

HONEY LABELS—

Neat and attractive. Sizes and styles to suit every need. Send for complete catalog.

DADANT & SONS, Hamilton, Illinois

Vol. 63
No. 9

Gleanings in Bee Culture

September
1935

Reaching City Markets

WALTER H. HULL

Section of the Farmers' Market in Washington, D. C. Active business in this type of market is generally confined to two or three days a week.

To Succeed One Must Discover and Apply Principles That Govern Success

Four years ago a shift in circumstances made it necessary for me to fall back on bees and honey for a living. I had kept bees for many years (though not continuously) and was confident that I could secure a crop of honey if there was any to be had. "But," I asked myself, "can I sell it?" I did not know. The sales problem remained, for the time being, an unknown factor.

It was this factor that led me first to consider renting bees to orchardists. I had an idea that it might interfere with the honey crop, for our local flow was short, and came early. But prices for orchard bees were somewhat higher then than they have been since, and I figured that whatever I got for this work would be in cash, not dependent upon the uncertain marketing factor, and that it would therefore pay to go after it even if no honey crop were secured.

To make a long story short, I found, after the first year, that not only could I be reasonably sure of turning my crop into cash but that I could generally make fair wages while doing it. This would mean little but for the fact, that to many another beekeeper, marketing is still the troublesome factor in his problem.

The honey trade is confined in the main to a very definite type of storekeeper in this section of the country. A few grocers have built up a trade in honey, but by far the greater number of these stores carry only a small stock—perhaps only a half dozen small jars which they have included in some order to their wholesale house, and which frequently set on their shelves for months, perhaps for years, before being sold. These grocers know little about honey, and care less, which is natural. In going after the grocery trade,

scout first for those stores which have a trade in honey, next for those that show an active interest, which may not mean much in sales but is worth encouraging.

Two Types of Stores

We have two types of stores that feature honey. One is a peculiar kind of out-

J. S. Strole (facing front) of Sperryville, Va., in the Farmers' Market at Washington. Mr. Strole finds that it pays him well to "stand" in this market with honey and fruit two days (Friday and Saturday) each week.

door market, handling fruit, vegetables, eggs, poultry in some cases, and honey, though there are numerous exceptions to this. Local produce is favored, and some of them sell 200 pounds or more of honey a week except in mid-winter, when it is too cold to set produce out. They are located on the outskirts of the city along main boulevards and a considerable part of their trade comes from people driving to or from the city. They are a sort of "grown-up" roadside stand, not pretending, of course, to produce the stuff they handle, but handling as far as possible stuff that is produced nearby. They provide a good outlet for honey. It pays to go after them with the first honey you take off the hives, and to keep after them as long as you have any left.

But the bulk of the honey sold in Washington is sold by dealers in the large public markets, of which there are four under city management (not counting one small outdoor market devoted wholly to the wholesale trade), and two or three under private management. Stalls inside these markets are rented to dealers in various lines, among which are several in each market that specialize in dairy products, and which nearly always feature honey. These dealers do not specially favor local produce. They buy wherever they can find what they want, and generally they prefer a year-round supply, but if what you have compares fairly well with what they can buy elsewhere after yours is gone, they are glad to consider whatever you have to offer.

There is one exception to this rule in the case of a definite local product of outstanding quality. For example, in our case, it is poplar honey. It is dark and strong flavored, but there is a regular demand for it, though not as large as for mild light honey, in these markets.

A roadside market, city cousin of the country roadside stand. It features farm produce, including honey. Newcomer into the marketing field, it is generally friendly to the producer.

In going after this trade you must compete wtih the big packers and producers in other parts of the country. The product must be first-class, and prices may rule somewhat lower than in other markets, but on the other hand these dealers often buy in much larger quantities.

Saturday a Big Day

Outside these city markets there are stands for farmers, who, of course, often sell honey along with their other produce. They are allowed to buy produce from their neighbors—or any local producer—and often you can make arrangements with them to handle honey. This market is open only two or three days a week but quite a lot of honey can be sold through it. Saturday is the big day in all these markets. It pays to go after this public market farm trade.

There is one other point that should be mentioned. In selling to any store or market that features honey you will probably see great stacks of honey set out on display. Well, just don't assume that because a lot of honey is in sight no more is wanted. A store carrying a display of that kind is pretty sure to be selling a lot of honey. The display is a regular feature. Besides attracting attention, it is a sort of guarantee of something or other to the customer. Anyway, it is a fact that customers buy more freely from a big stock than from a small one. The display must be maintained at all times. It has nothing to do with the supply below shelves, which may be so near exhausted that it will take a hundred or two hundred pounds of your honey to replenish it.

The conditions here described may vary somewhat in detail in other localities, but the underlying principles will, I think, apply equally to other cities. The thing to remember is that there are definite types of markets, some more favorable to your product than others, and that you succeed best by putting yourself in line with the prevailing trend in your locality.

Vienna, Virginia.

A. F. B. Resistancy

CHAS. MRAZ

Some Colonies Appear to be Able to Resist A. F. B.

The article, "Do Bees Recover from A. F. B.?" by R. G. Richmond, which appeared in June, 1935, Gleanings, was read with much interest, especially since I have conducted some experiments along the line of A. F. B. resistancy. While my experiments did not cover quite as long a period as did Mr. Richmond's, they involved the use of a larger number of colonies under more natural conditions.

In the late summer of 1931, a yard of 30 colonies was moved to a new location. Unknown to me at the time, a yard badly infected with A. F. B. was located about one mile away from this new location. Most of the bees in this diseased yard had died, leaving a large quantity of honey exposed to robbers. I do not know how much of this diseased honey my bees robbed, but judging from the amount of honey they stored, it must have been considerable.

Darker Bees Appear More Resistant

My yard of bees at that time consisted of dark "native" Italian hybrids and two colonies of goldens. During the spring of 1932, all colonies except three, came down with A. F. B. Of these three, two were strong and one rather weak. In the "native" stock, the disease affected the brood lightly and spread very slowly, if at all. In the two golden colonies the conditions were entirely different. The disease progressed very rapidly, killing practically all the sealed larvae in a short time, leaving the colonies in a hopeless condition. These two colonies of goldens were promptly burned up.

That spring, six Caucasian queens, raised from recently imported stock, were secured from a southern breeder and introduced into diseased colonies. Two of these Caucasians cleaned up all signs of the disease in a short time. The others cleaned it up eventually, though in two of them the disease would occasionally reappear. Two Italian queens raised from an imported mother were secured from a

northern breeder and introduced into two diseased colonies. These also cleaned up the disease.

In June, larvae from two of the best Caucasians, were grafted into all of the remaining diseased colonies. As a matter of curiosity, in several colonies, the "gluey" remains of diseased larvae were placed into the cell cups with royal jelly at the time of grafting. This did not in any way seem to interfere with the hatching of queens, perhaps because bees usually clean out all priming material placed in cell cups. All queens raised in these diseased colonies cleaned up the A. F. B. by the end of the summer.

Bees Clean Out Scales

Mr. Richmond says in his article the removal of a dried-down scale was not observed by him. At this time, I watched the bees many times clean out these scales. They did not tear the comb, but chewed away the larvae itself, starting at the front end of the scale and chewing it away clean as they worked toward the back of the cell. After the bees had finished cleaning out the diseased larvae, it was impossible to see any sign of scale whatever, the cells shone with a polish such as is found in any normal comb.

At the end of the summer the weak colony of the three colonies that had not contracted the disease in spring, came down with a sudden and bad case of A. F. B. This colony was wintered over. The next spring, 1933, all colonies were clean with the exception of the diseased colony wintered over. A Caucasian hybrid queen was introduced into this colony, and while some larvae did hatch, they could not clean up the disease. A badly diseased comb from this colony was then placed into a clean colony whose queen cleaned up the disease the previous spring. They made a bold attempt to clean out the scales but eventually the disease spread into all the combs. Both these colonies were finally burned up in 1934. The other two colonies that did not catch the disease in 1932 have never shown any signs of it. All other colonies that cleaned up the disease in 1932 have remained clean throughout 1933, 1934, and up to May 28, 1935, when they were last examined. The original combs are still in these hives.

This experiment has been described very briefly, and, like the experiment of Mr. Richmond's, it may be interesting, but is far from being conclusive. It just adds another bit of evidence to the case of A. F. B. resistancy. As a result of considerable experience with A. F. B. in the past ten years, the following conclusions seem so far to be evident:

Conclusions

1. There are no bees immune to A. F. B. The various strains and races of bees can be classed as non-resistant, strongly resistant, or any of the infinite degrees of resistancy between these two extremes.

2. Inbreeding for such characteristics as color, gentleness, etc., decrease the bees' resistance to disease greatly. This is one reason perhaps why goldens that have been inbred for color are so susceptible to American foulbrood.

3. Hybrids seem to be more resistant than pure races, especially hybrids of normally resistant strains.

4. Queens from imported stock seem to be more resistant than native stock, a reason, perhaps, why A. F. B. is not much of a problem in Europe.

5. It is sometimes possible for resistant bees to clean up A. F. B. in its very early stages, but impossible for them to do so after a certain stage of the disease has been reached. In most cases the best "cure" for A. F. B. is to burn all combs that have once become diseased because of the uncertainty of the critical point at which recovery is impossible.

6. Honey robbed from diseased colonies under natural conditions usually do not contain sufficient concentration of spores to cause disease with resistant strains of bees. If this is true, then by resistancy we can prevent the spread of A. F. B. by having resistant bees before the disease makes its appearance, or to prevent its spread in a locality where there is A. F. B. Then, as with the case of European foulbrood, the disease would just naturally die out for lack of "fuel" to feed on.

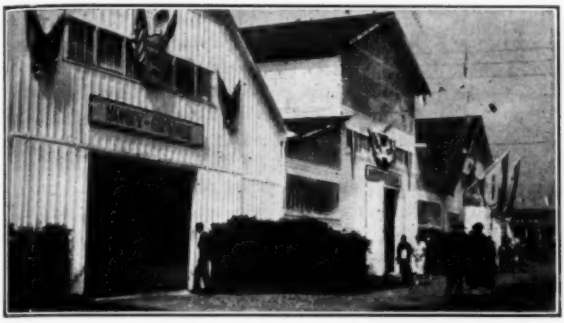
Let us hope more evidence will come to light along this line to guide us toward a permanent solution to this problem.

Middlebury, Vt.

[It may be possible that some strains of bees do actually show a high degree of resistance to A. F. B. Let's not confuse resistancy with immunity and while further work along this line is being done, may we not place undue confidence in bees supposed to be resistant to A. F. B., but rather may we keep up the fight against disease. Eternal vigilance is the price of success in combating the beekeepers' worst enemy, A. F. B.—Editor.]

Take Your Honey to the Fair

NATT N. DODGE



Beekeepers Can Make Fairs Excellent Honey Advertising Mediums

The Honey and Grange Building at the Western Washington Fair. It is flanked on one side by the Horticultural Building and on the other by that containing the Maritime and Natural Resources Departments.

It would be disputable to say that agricultural fairs offer the most effective means of advertising honey. But it is only right to give the fairs credit for offering to beekeepers a very valuable service.

No fair can bring honey to the attention of large crowds of potential honey users unless beekeepers enter and exhibit their honey. Nor can full publicity value be obtained without a maximum effort on the part of all beekeepers in the vicinity to develop an attractive and effective exhibit that does more than just display honey. In brief, the writer feels that fairs are very valuable as a honey advertising medium, but that beekeepers are failing to take anything like full advantage of the opportunity which they offer. He is prepared to prove the statement.

Three Excuses for Not Exhibiting

There are three main reasons, or excuses, that beekeepers offer in explaining why they do not display their honey at fairs. The first: that the expense in time, trouble, and cash outlay exceeds the greatest possible return. The second: that the judging is not fair, that some beekeeper has the judge bribed, or that the judge isn't qualified or is otherwise unsuitable. Lastly: that there is nothing to be gained from putting up an exhibit, so why make the effort?

The first is perfectly true if the beekeeper expects to get a return in the form of premiums alone. The second may be true in some rare cases. If so, it is partly the beekeepers' fault. The superintendent of the Bee and Honey Department (or whatever official has the job of finding a judge) has more at stake in the selection of a competent and fair-minded judge than have any of the exhibitors. He usually requests the beekeepers' assistance and opinions, but rarely gets them—until after the judging. Finally, the exhibitor gets as much or more return in publicity value for the money expended through fair exhibits than from almost any other form of honey advertising.

Exhibitors Should be Present

Undoubtedly the person in charge of a honey display at a fair realizes more fully the advertising value of the exhibit than do the exhibitors. He is looking at it from a general rather than from a personal standpoint. Also he knows that the public is interested because of the bombardment of questions he receives. He knows that a person sufficiently interested to ask questions is in the most receptive frame of mind to absorb information. But there is another individual who is swamped with questions, and that is the judge. During the last few times that I have judged honey, someone has been detailed to divert and reply to questions fired at me. If the judge answered all of the question aimed at him, he would never complete the judging.

It is impossible for me to understand why so few beekeepers are present at their exhibits to answer questions and

contact possible customers. Time after time I have had persons remark "That is wonderful looking honey, it just makes my mouth water. Can I buy some of it here?" How pleasant it is to be able to reply, "No, ma'am, but there stands a beekeeper; he'll be glad to tell you how to obtain all you want." Yet when I look around, there usually isn't a beekeeper in sight.

Judging Should Be Fair

In an effort to insure unprejudiced judging, the management of some fairs does not permit the exhibitor to place his label on any packages, nor to show his name, trademark or other identifying feature in connection with his display. Personally, I feel that this is a mistake. If a judge is well acquainted with the exhibitors he will soon identify each display by little personal characteristics that are unmistakable.

Mrs. A. Green, Superintendent of the Bee and Honey Department of the Western Washington Fair. She is doing much to promote the growth of the Department.

If unacquainted with the exhibitors, he should have no reason for partiality. The score card system of judging is as practical and effective a safeguard against prejudice or partiality as I know. The judge has no idea how the placings are running until the scores are totaled. I am frequently surprised to find that an exhibitor whose product, on first and casual inspection, appeared the best on display has taken second, third, or even fourth position when the final additions were made. In 1934, at the Western Washington Fair at Puyallup, out of a grand total of 1400 points the leading exhibitors were only 1¾ points apart. Any judge who could play a favorite that close is wasting his time judging honey. He should be either in politics or on Wall Street.

Exhibitors Not Enemies

The saddest mistake, I believe, that is made by exhibitors is to look upon one another as enemies rather than as colleagues. Although there should be a spirit of competitive rivalry, all are working for the common cause of impressing the public with the deliciousness and healthfulness of honey as a food. Were this not true, it would be far better to hold the competition behind closed doors. Agricultural fairs are primarily displays, not battles. The premiums are merely inducements as an aid to encouraging the exhibitor to take pains in selecting and displaying his product, and to help him to defray the expenses incident to its preparation. The entire display including the entries of all exhibitors should present as attractive and appealing an appearance as possible in an effort to impress the public most favorably. Thousands of pieces of honey literature might be placed in the hands of interested observers if it were available at honey displays. But will the exhibitors chip in to provide such literature and see to its intelligent distribution? They will not. Some beekeepers with a retail trade might get a little greater share of the publicity value. All too frequently exhibitors minutely examine the other displays in the hope of finding a technicality whereby some "opponent" may be disqualified.

Viewpoints of Judges Differ

Judges, of course, differ widely in their viewpoints and in their methods. I have been criticised for not giving the full 100 points in any class to the top scorer. Personally, I prefer to have in mind an ideal to be used as a standard. Nothing, of course, can reach this ideal, consequently nothing deserves the full 100 points. However, the relative standing of the various entries in the class is in no manner influenced; I merely begin with a top of 85 or 90 instead of 100. This method has a distinct and practical value in that it is helpful in ironing out ties which frequently occur, when the score-card method of judging is used.

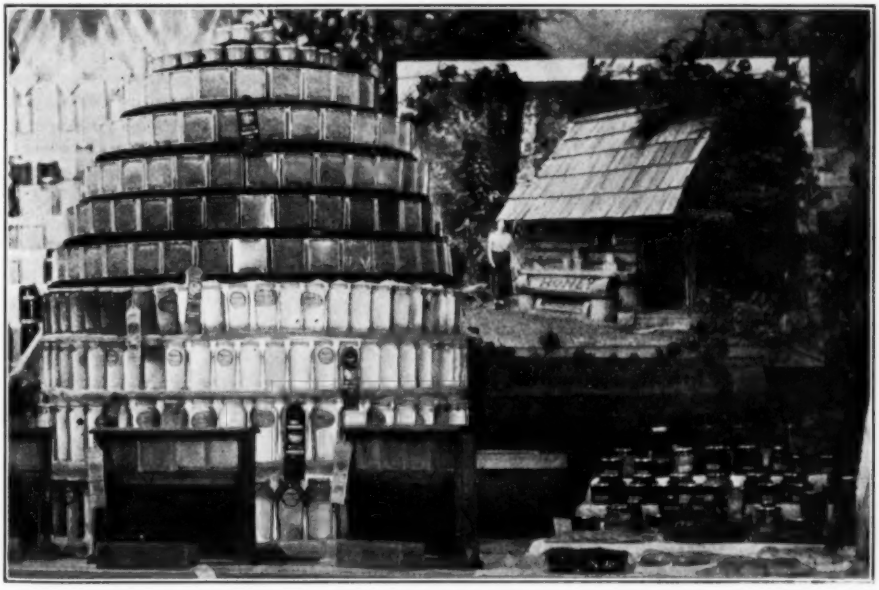
Having been associated for a number of years with the packing and marketing of honey, and having been especially interested in the effort to increase honey consumption through public education, I am inclined to view with favor a fair exhibit which combines sight appeal with

instructional features. For instance, one beekeeper displayed a glass case containing eight sections. These formed a complete series beginning with a section containing a three-fourths starter of thin super foundation and ending with a completely sealed and finished comb of honey. A display of that kind properly placed to attract attention and a beekeeper near to offer explanations to those who desire them will accomplish more to overcome the bug-a-boo of "manufactured" comb honey than a hundred dollars' worth of literature on the subject.

Questions Should be Answered

One question asked a dozen times an hour at the fair is, "Why is some of that honey dark in color and some very light?" or, "Is that clear stuff in those bottles really honey?" or, "What kind of honey is that? I thought all honey was yellow." Another common question from the interested person watching the bees moving about over the comb in the display cases is "Are those bees really making honey?" Usually these questions go unanswered, or the reply is so short as to leave the questioner unsatisfied or with the wrong idea. A few placards neatly lettered and conspicuously placed would answer these inquiries before they were asked, and would inform many persons to whom the thought did not occur in the form of a question. A table with the sign "Information," where the beekeeper-exhibitors might take turns at answering questions and distributing literature would be of inestimable value as a means of public education. Other placards pointing out health and food values of honey, together with tips as to a few choice but unusual uses and some facts about economical purchasing and the easier ways of serving honey, would accomplish wonders. The presence of the honey display attracts attention and serves to awaken an interest that makes the assimilation and retention of facts much more complete.

As a honey judge who has the privilege of placing 200 of a possible 2000 points



An outstanding display. The honey is massed in such a manner as to attract attention, particularly with light behind the jars. The display is built in the form of the well known skep, trade mark of the profession. But the master stroke is the huge enlarged photo to the right which is a replica of the beekeeper's wayside stand. No one seeing this display could pass this stand without a memory of the tempting appeal of the display as a recurring longing for a taste of the sweet. This display is an excellent example of the advertising value of a Fair; advertising honey and advertising the exhibitor. At the display the beekeeper's wife (see her in the photo) pleasantly answered questions about bees and honey. The acquaintanceships formed here brought many people to the honey stand. It is much easier to stop at a stand where you know the attendant than where you will meet a stranger. The psychology and salesmanship demonstrated by this display explains why this beekeeper is one of the few that has weathered the last few years with comparative comfort. (Photo by H. A. Kirwin.)

for the winner of the coveted sweepstakes trophy (under the scorecard system), I gladly offer the tip that the man who combines an attractive display, high quality product neatly arranged, with an educational set-up destined to tell the observer why he should increase the quantity of honey in his menu, will stand a good chance of getting the giant's share of the 200 points at my disposal. Other judges selected from other fields may not place such a high value on educational features. Agricultural colleges teach their students to base their judgment on show value. And so, Mr. Exhibitor, mark down as one of the fundamentals of successful exhibiting in a competitive display: Know your judge, and cater to his interests, or peculiarities, if you care to think of them as such.

Different Reactions to Honey Displays

Point-of-view is an important factor influencing the reaction to a honey display. As a judge, my impression is considerably different from that received by the exhibitors, who, in turn, get an entirely different slant than does the public. I offer here the judge's viewpoint in the hope that it may aid the exhibitor to size up the situation, thereby increasing his chance of receiving returns both in the form of advertising and premiums. Particularly the exhibitor who, either because of a low quality product, or because he doesn't have the variety to enable him to make an entry in every class, must rely upon the advertising value of his display to offset the cost of exhibiting, should lean strongly toward the educational type of display.

At the beginning of this article, I made a statement that I was prepared to prove that the agricultural fair was one of the best advertising mediums for honey, and that the beekeepers were not making the most of the opportunity. Since issuing myself that somewhat rash challenge, I have received a letter from one of last season's exhibitors at the Western Washington Fair. He concludes:

"I have some ground glass to put in your salt-shaker for judging me down to third, but I guess at least three others have worse than that in store for you. Certainly I obtained great value from the display, as half the people stopping at the stand say, 'We saw your display at the fair, and we want honey.'"

Which, I guess, helps to prove the first part of my statement, even though it weakens my stand on the last; one exhibitor, at least, making the most of the opportunity.

To my mind, the beekeepers who have been exhibiting at the Western Washington Fair, win or lose year after year, are the ones who are keeping the honey industry alive in the Puget Sound region. I take off my hat to them all! And I sincerely wish that it were in my power to give each of them the sweepstakes prize. There is not one of them that does not deserve it for his loyalty, and his persistence, and the good that he is doing for the cause.

Seattle, Washington.

Queen-Rearing in South Africa

G. P. BEYLEVELD

The Basic Principles of This System Are the Same as Those of America

The enthusiasm, which my special queen-rearing hive (as described in the August, 1934, issue of Gleanings) has evoked here and even in the States (judging by the numerous letters I received on the subject) has prompted me to write this article in which I shall endeavor to set forth briefly my whole system of queen-rearing.

It is not my intention to attempt to enlighten our American beekeeping cousins (do not take offense—we are not all black over here) on the subject of queen-rearing, since that would be like "carrying coal to Newcastle," but purely, as a matter of general interest, to give readers an insight into the methods employed over here in the various phases of raising queen bees.

Since most of the beekeeping practices of this country are based upon American

methods, the basic principles of our queen-rearing system are the same as those of American systems. My greatest objection, however, to the various phases of queen-rearing, as outlined in popular text-books on the subject, is that there are usually too many manipulations and too much detail. In these days when time means money, everything has got to be done as quickly and economically as possible. Hence it is that I have deemed it necessary to modify to a considerable extent many of the orthodox manipulations in queen-rearing.

The key note of all my operations is simplicity, efficacy, and economy in labor, and that I have succeeded in combining these to a remarkable degree, is shown by the satisfactory results I invariably obtain.

The apiary house has a concrete base with a furrow which is kept filled with water to keep out ants. To the right of the picture are shown some of the nuclei.

The Breeding Queen

The primary requisite for good queen-rearing, I consider, is the selection of a choice queen for breeding purposes. The queen should be prolific and in a high state of vitality. This can easily be judged by the amount of brood the colony has in relation to other colonies, and also largely from the appearance of the queen herself. I always prefer those big handsome-looking queens that move about actively over the combs, when the hive is examined, to those that move about sluggishly and always have a group of admiring bees around them. Although it might have a lot to do with the temperament of the queen herself, I find that it is the big nervous queens that usually have the biggest brood-nests, and whose colonies invariably produce the largest crops.

Naturally due consideration should be given to the temperament and color of the progeny, as there is bound to be appreciable variation as regards these characteristics, amongst the progeny of the respective breeders one has in mind.

I consider it inadvisable to keep a prospective breeder for more than one season at the head of a big colony in order to test for productivity, since the younger the queen is, the better her vitality. One season's results ought to give one a pretty accurate idea of the qualities of the queen.

Having selected the breeding queen, I transfer her to a six-frame nucleus, using brood and bees from her own colony to make up the nucleus, so that there is no curtailment in her egg-laying. Two well-filled combs of honey and pollen are put on the outside, next to each a frame of sealed brood and in the center one frame containing young brood and another frame with an old dark comb. This arrangement gives a wide divergence in the age of the brood in the different combs, and once one has become used to the sequence of the emergence of the brood in the various combs, one can easily tell beforehand which comb will contain young larvae of a suitable age for grafting. Allowing the queen only four frames for brood-rearing, cuts her egg-laying down just the right

amount to insure that there would be no undue drain on her vitality, and yet gives her ample room to keep her egg-laying mechanism functioning properly. With this arrangement one has a consistent supply of larvae suitable for grafting throughout the season.

This nucleus is fed slowly with a Boardman feeder, let in through a slot cut in the rear of the hive, all the time, whether there is a honey flow on or not. This insures lavishly fed larvae that can easily be lifted out of the cells, thus making grafting a pleasure instead of a drudgery.

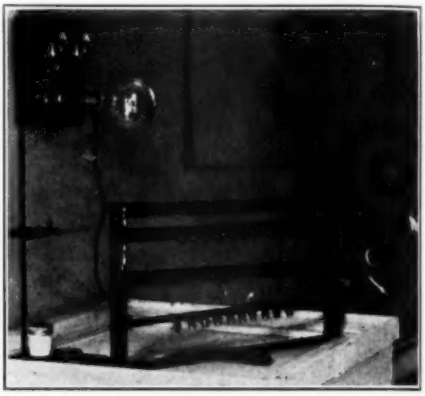
The hive containing the breeding queen is placed as near as practicable to the entrance of the grafting room, so that the frame containing larvae for grafting, can be carried into the room with as little delay as possible, thus avoiding undue exposure of the brood.

Cell Building Colonies

The next in line of importance is the cell-building colonies. My cell-building colony is housed in the special queen-rearing hive, which was described fully in the August, 1934, issue of Gleanings. It is here where I consider I have made a great advance, since I use only one colony and yet get cells started under the queenless impulse and finished under a supersedure impulse. It is generally conceded that this is the most ideal combination to get queen cells built since it insures not only quantity but quality as well. This special hive has many other features to commend itself and every queen-breeder should give it a fair trial. Once one has become used to the simplicity of its operation, one will never revert to the old laborious way of having separate sell-starting and cell-finishing colonies.

Preparing the Cell Cups

Various methods have been described of making artificial cell cups, but I think I have a manner that is hard to beat for simplicity. As I do not require vast quantities of cells, I need not resort to dipping, but prefer to mold the cells since a much more perfect cell-cup can be procured in this way. All cells I use are molded over an oak stick of the right size and shape. The wax I use for making the cell cups is obtained from extra thin super comb foundation. The sheet of foundation is cut into pieces, approximately 1½"x1". These pieces are first rolled into little balls. A ball is then taken and placed on the tip of the molding stick, which has previously been dipped into water. It is then pressed down so as to flatten it out a bit, and with the index finger the overlapping wax is smoothed down over the stick, so that it attains a very delicate thickness about ½" down from the base. A sharp pen-knife is then run gently all around the stick, cutting off the surplus wax and leaving a thin even edge



Interior of grafting room showing grafting desk and lighting and heating arrangement.

all around the top of the cell-cup. The cell-cup is then removed with a twisting movement.

These cell cups are suspended on the cell bars by means of small pellets of propolis, which have previously been exposed to the sun so as to soften them. I find propolis superior to wax-sockets or wooden cell cups since it is always easily procurable, sticks the cell cups firmly, and later allows for the finished cells to be detached easily without any jarring. The cell-cups are placed ten on a bar about one inch apart. If they are placed any closer together, there is a greater tendency for the bees to build brace comb from one cell to the other. The cell-bars just fit nicely in the inside of the frame and are held in place by two nails driven through the side bars into the ends of the cell bars. This allows the bars to be revolved and at the same time there is no danger of the bars falling out.

The Grafting Room

Before going to the actual process of grafting, I wish to say a few words about the grafting room. For the commercial queen breeder a grafting room is absolutely indispensible, since it allows grafting operations to be carried out according

to a definite schedule, even if the weather may at times be unfavorable. The grafting room is about 6'x12', built on to the honey house. An electric heater easily heats up the room to the correct temperature for grafting, but when it is exceptionally chilly, I use a hot-plate in addition. The grafting is done on a desk of convenient height (I use one made from packed rims for Buckeye hives with an inner cover on top.) The light from a 250-watt lamp is utilized for lighting up the cells in order to facilitate the removal of the larvae. The bulb is placed in a wall socket just high enough from the floor to come level with the operator's eyes. When grafting, the back of the operator's head is turned towards the light and the comb held conveniently in front of the face so that the light shines fully into the cells. One can then follow every movement of the grafting needle, so that there is no danger of injuring the larvae accidentally, once one has become proficient in the art of lifting them out.

Grafting

Each cell cup is supplied with a small globule of royal jelly placed in the center of the cell. Since the bees clean out all the jelly put in by the beekeeper in a very short time after the cells are given them and furnish them with fresh pap, there is no need in supplying cells liberally with royal jelly initially. As a matter of fact, a tiny drop of honey will do just as well, although I prefer to use royal jelly.

The grafting room is heated up to a temperature of about 85-90° F., and the floor sprinkled with water in order to get the atmosphere humid. After the cells have been primed, a damp handkerchief is placed over them and the comb with larvae for grafting quickly fetched into the grafting room. Every cell is then supplied with a larva of the right size. There has been a lot of controversy over the question of the most suitable age of larvae to be used for grafting, but I think it utterly impracticable to advocate the use of larvae of a certain definite age (under three days). Every queen breeder learns from experience what size larvae to use for best results. And as for the theory that larvae in certain conditions, e. g., moulting, will result in a non-accepted cell is highly problematical, since I invariably get a 100 per cent acceptance, and use larvae chosen at random, some of which must assuredly have been in the moulting stage when removed from the cell.

Getting the Cells Started

After the cell cups have been grafted, they are placed in the cell-starting portion of my queen-rearing colony. By pulling out the slide after twenty-four hours, the queenless condition under which the cells were started is converted into a supersedure condition and the bees carry on the work under the supersedure impulse.

Getting the Cells Finished

I am sure most queen breeders will agree with me that the greatest snag in queen rearing is to get the cells completed properly. In this respect I think the question of judicious feeding is of paramount importance. Some queen breeders are all too prone to sin in this respect and feed their colonies too liberally, evidently believing that feeding will put everything right. This is the greatest mistake one can make, since excessive feeding more often than not results in long drawn-out queen cells. This is especially the case during rainy spells, and I attribute it to excessive humidity, resulting in a dilution of the royal jelly and consequent collapsing of the bed of royal jelly. The result is that the larva floats down and the bees in their endeavor to rectify matters simply prolong the cells. Although the queens might not suffer to any appreciable extent, yet they are sometimes cramped for space and are bound to be inferior. In any case such cells are, at least, an eyesore to any queen breeder.

Another result of excessive feeding (and especially when there is a flow on) is that the bees will build brace comb from one cell to the other and in some cases right over the cells, with the result that the development of the nymph is retarded or in some cases the nymph may even be suffocated.

After much experimenting I have devised a definite system of feeding as follows: When there is a good honey flow on I do not feed at all; only sprinkle the bees with sugar syrup when giving a batch of cells. When very little or no nectar is coming in, I feed liberally for two days before the cells are given, thereafter give only a pint every second day. (The syrup I use is made from one part of sugar to one part of water.) Since I use the same colony for starting and finishing the cells, I do not increase the rate

of feeding when giving a new batch of cells, but just sprinkle the bees liberally with sugar syrup prior to giving the cells. Should there be any damp rainy spells, I give a much thicker syrup (two parts of sugar to one part of water) at the rate of half a pint every evening.

With this rate of feeding I invariably obtain beautiful, sturdy-looking queen cells, with well-defined pits—the type of queen cell that, I daresay, delights the heart of every queen breeder.

Incidentally with this rate of feeding, the special glass gauge recommended for my queen-rearing hive becomes redundant, since the bees usually take up all the feed before the next is given. This appreciably facilitates the construction of the hive in question.

There are, however, times when bees will for no apparent reason persist in tearing queen-cells after they have been sealed to the intense annoyance of the beekeeper. I experience the most trouble in this respect during the hot summer months just after the main honey flow, although I do not attribute it solely to the weather, since I often get a beautiful completed batch in between a series of failures. I have tried practically everything to remedy this trouble, but nothing seems to be of any avail, and I am afraid that it is one of the evils that will perforce have to be tolerated.

Mating Hives

The next step is naturally the disposal of the ripe queen cells. The mating hives are standard ten-frame hives divided by two close-fitting division boards (sliding between two grooves formed by two thin pieces of wood on each side of the hive) into three compartments of the same width. Pieces of canvas are used as inner covers. They are nailed on the division-boards so that each compartment can be examined without disturbing the other. Each compartment is capable of holding three frames, but I use only two in each since it facilitates matters a lot when looking for virgins, and also eliminates the risk of squashing queens when removing or inserting frames. The only disadvantage is that bees will build comb in the open space during a heavy honey flow, but these bits of comb can always be easily cut out. The nuclei are formed of one frame of emerging brood with adhering bees and one comb well filled with honey, and, if possible, pollen. As many bees as the nucleus can hold are then dumped into it from the same colony whence the brood was taken. I find one can never be afraid to use too many bees, since fully 50 per cent will usually return to the parent hive. It is advisable to form nuclei as late in the afternoon as possible so that the majority of the bees will stay for the night, thus giving the brood a chance to emerge, and thus minimizing the risk of the nucleus getting so depleted that the brood may be chilled. Nuclei are given very small openings until they are well established. It is often advised to close up the entrances altogether for a day or two after the nuclei have been formed in order to make the field bees stay, but I am afraid that would be fatal in our hot climate.

I do not believe in baby nuclei since it not only requires special equipment, but one has far too much trouble with absconding and robbing out. The great advantage in keeping nuclei in standard hives is that they can always be kept in just the right condition with a minimum of trouble. Should one get too weak, a frame of emerging brood can easily be given it from some strong colony, or when some build up too rapidly (which they are all too prone to do in the spring), a frame of brood can always be removed to be used somewhere else. With the advent of winter these nuclei can easily be united by simply removing the division-boards and the application of a little bit of smoke. Here in our climate three nuclei thus united winter-over well, and it is surprising how quickly this colony will build up in the spring. The colony can then be easily split into three again, and there is consequently no need to drain strong colonies of bees and brood to form new nuclei every season.

In my first article I advise that the cells be left in the cell-building colony till noon of the tenth day when they should be removed and distributed to nuclei. It will be found pretty awkward to distribute cells and graft the same afternoon, hence it is preferable to put the frame of cells in some strong queenless nucleus for incubation till the following day. This nucleus should have plenty of young bees and it is advisable to sprinkle the bees with sugar syrup before giving the cells. (I always put in the frame of cells with all the adhering bees.)

The cells should be distributed first thing the following morning, since the

queens will usually be just at the point of hatching then. One should, of course, be very careful not to have used too old larvae for grafting or it might be just too bad if one virgin emerged a little prematurely. However, one soon learns from experience just what size larvae to use and one need have no fear of losing a batch of cells through some virgins emerging in advance of the others.

After the bees have been brushed off the frame, the cells are carried into the grafting room where they are cut off gently and placed in the cell-block. They can then be distributed to queenless nuclei. I put the cells in in the following way: The comb of honey is removed and with a pen-knife a vertical indentation is made in the comb (side next to the brood in the adjacent comb) from the top-bar downwards. This groove should be long and broad enough just to accommodate the queen cell, and should extend right down to the midrib. The queen cell is then pressed firmly into the groove, taking care that there is ample room at the tip for the queen to emerge freely. The cell is then smeared all over with honey. When queen cells are treated this way they are very rarely torn down by the bees, provided the nucleus has ample honey and a fair amount of brood either sealed or unsealed. As a matter of fact, I can recollect only one instance when a nucleus tore down a cell and that was one which was in an advanced state of laying workers. I never feed nuclei, as I consider it not only absolutely unnecessary, but decidedly detrimental inasmuch as some bees are bound to get drowned in the feeder and that it usually has a tendency to induce robbing.

One great difficulty I experience over here is to get the virgins mated. Fully 30 per cent of all virgins get lost on their mating flights, either getting caught by insectivorous birds or fail to return to their nuclei on account of some obscure reason. That a nucleus of bees will rarely destroy a virgin (unless they are laying workers) I have proved to my entire satisfaction. I have confined any amount of virgins to the hive (by placing a bit of queen excluder over the entrance), and the queens were tolerated for weeks on end without the bees showing the least antagonistic tendencies.

It may be of some interest to readers to know that during the course of these experiments, I have kept virgins for over two months in nuclei and they never started to lay—not even drone eggs as they should have according to popular belief.

This then brings us to the last phase, namely, looking over the nuclei 8 or 9 days after putting out cells to ascertain whether they have laying queens or not. I think it is the most exciting part of the whole business to hunt for laying queens, and I wonder whether there is a sight that delights the heart of the beekeeper and especially the queen breeder more than to find a rousing big queen just beginning to lay. Surely there is no more gratifying sight after all the weeks of hard work, and one feels that one has been amply rewarded for one's labors.

Pretoria, South Africa.

Two Worth-While Michigan Meetings

The Lenawee County beekeepers' meeting, held at Adrian, August 8, was well attended. The proper processing of honey for market, intelligent and efficient apiary management, and disease control, were the topics discussed. At the banquet held in the evening, Chas. A. Reese, of Columbus, Ohio, related some of his experiences in Florida, while inspecting bees there some years ago.

This annual state meeting held in East Jordan, August 10, will not soon be forgotten. The program held in the high school building was unusually interesting and helpful. At the close of the meeting we visited Mr. Bartlett's honey extracting house, where three radial extractors and one uncapping machine were in action and where 10,000 pounds of honey have been extracted in one day.

Following the banquet in the evening, Russell H. Kelty, President of the American Honey Institute, urged all beekeepers to co-operate in making the National Beekeepers' meeting in Detroit, October 7, 8, 9, and 10, the best ever. One interesting exhibit at the meeting will be a display of Michigan honeys, such as milkweed, raspberry, wild cherry, fireweed and others. —M. J. Deyell.

Importance of Drones

J. F. NORGREN

A Careful Selection of Drone Mothers Is Essential

What a calamity exists when a fine, well-bred virgin queen mates with an inferior, low grade drone! All the thought and effort that have gone into the rearing of this excellent virgin are lost to succeeding generations through the haphazard mating unless the degenerating cross is obliterated by inbreeding. With these points in mind it seems the principles of queen breeding are open to discussion, for any effort should be justified in improving our strains of bees if that is possible.

One hears a good deal about line-breeding, or inbreeding; little about the significance of drones and the crossing of pure, unrelated strains for combining and improving the best qualities of each. Line-breeding can be a high art; or it may decline to the simple practice of selecting a good queen and allowing nature to take its course in the apiary.

Considering the development of domesticated animals one must agree that line-breeding is essential and desirable in its place—that of originating and fixing type and characteristics of a strain by inbreeding from an extraordinarily fine individual. After desired characteristics have been fixed there is a question if further inbreeding is advisable, since inbreeding naturally perpetuates and develops weaknesses as effectively as good qualities.

The average livestock producer, whether breeding for pure-bred or utility demands, frowns upon inbreeding with religious contempt. He has learned that select crosses of unrelated blood increase vitality, build type and conformation, and smother out defects. How much the principles of livestock breeding apply to the constructive breeding of bees, I can not say, but I believe the probable correlation demands serious consideration.

Bee breeding has one advantage over the breeding of any other kind of domesticated creature — the fact that drones have but one parent. Obviously, the queen transmits her characteristics 100 per cent to her drone offspring. From that line of reasoning the selection of drone mothers is vastly more important even than the selection of the mother of virgins. The characteristics of a virgin are the result of the combination of two parents, therefore somewhat indefinite. The drone, however, is the known quantity—the positive element—possessing his mother's characteristics and transmitting them in total.

In pursuing a system of crossing of pure blood lines, the drone colonies (mating yard) should necessarily be remotely located, with each drone mother selected for high egg-laying ability, vigor, longevity, size, type, and color, as these qualities would be carried on in full measure by the drones.

The queen selected for the production of virgins must have distinguished herself for high production and the character of her worker progeny. The workers should be hustling, non-swarming and well-dispositioned, with approved markings, and showing a decided propensity for successful wintering. Virgins bearing these traits and purely mated to selected drones of unrelated blood should intensify remarkable qualities in succeeding generations for superior breeding stock. Of course, queen bees may never be sold by their pedigree—yet time and competition change a lot of things and beekeeping has a lot of both in front of it.

Junius, South Dakota.

[While we may not agree with Mr. Norgren in all of his statements, his article contains much food for thought.—Editor.]

The Beekeepers' Handshake

E. R. ROOT

The Ohio State Beekeepers' Field Meet at Dayton

Just a handshake—that's all; but what a world of goodwill its silent language conveys! This is especially true at bee meetings, both summer and winter. A friendly grip of the hands, a kindly look of the eyes, gives the spoken language a power that no printed page can convey.

Herein lies the value of bee meetings. No bee journal, however good, can tell the whole story. No printer's ink can give the thrill of meeting face to face, and hearing the voice of one you have long known but have never seen. To see is to enjoy and profit. But for this human and personal contact the bee conventions would be only a memory of wasted mileage and hotel bills.

The great International Congress of Beekeepers will be remembered not so much for what was said from the platform as for its handshakes and greetings from those of whom you have read but have never seen.

In the same way the Ohio State Beekeepers' Field Meet at Dayton, on July 26 and 27, was notable for these same kind contacts, especially those between sessions where Bill could swap lies with Jim; Jim could ask Bill a question, the answer to which would clear up a whole series of printed pages. Moreover, Jim will see that Bill actually does not carry horns in the top of his head but on the contrary is "one of the nicest chaps I ever met."

Veteran Charles A. Reese, State Foulbrood Inspector, explaining to the beekeepers of Ohio that burning all infected material is the only sane and safe way to treat American foulbrood.

The place of meeting of the Ohio beekeepers was well chosen. It is literally a land of milk and honey. Bees and cattle in Montgomery County thrive on its sweet clover. And why so much sweet clover? Because it has a county agent who has preached sweet clover among the farmers as a solution of their problems. It meets the dry weather question. It will stand too much rain. It

A group of Ohio State beekeepers assembled on the morning of July 27 last, at the grave of the immortal Langstroth in Woodland Cemetery, Dayton. The inscription on the monument shows why the name Langstroth will always be sacred to all modern beekeepers the world over. His discovery of the bee space, which the bees always leave clear of combs or bee glue, made it possible to make a really movable frame that required neither knife, chisel, nor hammer to remove. To discover the bee space and to apply it seems simple enough, but it took a genius after many centuries to find it and hang a frame in it. This spot, sacred to beekeepers, will doubtless continue to be the Mecca of beekeeping for years to come. It is to be hoped that a great International Congress of beekeepers will some time in the near future assemble on this spot. Woodland Cemetery is famous also because in it reposes the remains of Wilbur Wright of the famous Wright brothers, who made it possible for man to take wing and fly like the birds.

makes milk and honey. It makes fat, sleek cattle, as photos shown a year ago testify. It is a plow-under crop. It makes pasturage for bees. It insures a crop when otherwise drouth would spell failure.

But Dayton is notable in another way in that in one of its cemeteries reposes the remains of the man who revolutionized bee culture by his discovery of the bee space. It was this discovery that made it possible to have a movable frame that could be lifted from its place without cutting a comb or disturbing the peaceful morale of the colony.

On the morning of the 27th the beekeepers (those who got up early enough after talking half the night) assembled around the grave of the immortal Lorenzo Lorraine Langstroth. See previous page.

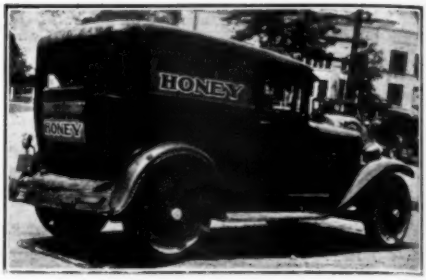
The inscription was prepared by Eugene Secor. As it can not be read very easily in the halftone, it is reproduced here in plain type.

INSCRIBED TO THE MEMORY OF
REV. L. L. LANGSTROTH,
"FATHER OF AMERICAN BEEKEEPING,"

by his affectionate beneficaries in the Art; who, in remembrance of the services rendered by his persistent and painstaking observation and experiments with the Honey-bee, his improvements in the Hive, and the charming literary ability shown in the first scientific and popular book on the subject of Beekeeping in the United States, gratefully erect this monument.

Rest thou in peace. Thy work is done.
Thou hast wrought well. Thy fame is sure.
The crown of love, which thou won
For useful deeds, shall long endure.

This monument was erected five years after Mr. Langstroth's death in 1895. It represents the spontaneous gifts from grateful beekeepers from the world over. Made of granite it will continue to show to the world that here lies the man who made beekeeping commercially possible as well as a pleasant diversion for the back lotter and the farmer dependent on bees for more and better fruit.



The honey delivery and sales truck used by W. C. Joest, sales manager. Millersport, Ohio. Mr. Joest has an attractive personality, knows how to talk the virtues of honey to diverse and sundry grocermen. He buys and sells lots of honey to a thousand grocermen in three states. He has a first class product in a variety of packages. When a grocerman tells him honey won't sell and shows a bottle of poor stuff on a back shelf he tells him his honey will sell but that it must be displayed out in front where it can be seen. He sells only good table grades and with his affable sales talk he can make the most refractory grocerman put on a sample lot of his honey. With this truck he calls on all the trade often; but he made it very clear that he does not infringe on the territory of a beekeeper who has worked up a good trade for his locality. He seeks only open territory where no honey is displayed or sold in groceries and there is plenty of that without encroaching on the territory of another. Beekeepers who can not sell their honey better get in touch with him.

I shall not attempt to give even a brief of the discussions and papers that were presented at the afternoon session at the Coliseum of the same day. The photos here presented will give a partial impression of what those who did not attend this meeting missed—that indescribable something that made every one feel that this meeting sponsored by the Ohio State Beekeepers' Association and the Montgomery County Beekeepers' Association was worth the time and money spent. Great credit for the success of the meeting is due to Secretary W. E. Dunham and President Fred B. Orr of the State Association, Penn G. Snyder, and President Ward Ruse of the Montgomery County Association.

A Friendly Handshake at New York State Meeting

The New York State summer meeting at Cayuga Lake State Park, August 10, was a great success. A rather heavy rain, beginning in some parts of the state as early as ten o'clock in the morning, cut

down the attendance somewhat. However, about 175 assembled.

Black clouds became so threatening immediately after the picnic dinner, that the baskets were hurriedly repacked and the program held on a long porch of the pavilion. A large number of prizes had been donated for various contests; some of these were held for the winter meeting, others were auctioned off, with Howard Myers, Ransomville, New York, as amateur auctioneer. The sale of queens brought in $28.80, which is to be sent to the American Honey Institute.

New York State beekeepers enjoying the picnic dinner August 10. In less than an hour a heavy rain was falling and the program had to be carried out on the porch of a pavilion.

At the time of the meeting it is doubtful if more than half a honey crop had been secured in New York State, although, as is usually the case, there are exceptional localities. Leroy Keet of Watertown, is getting a normal crop. Mr. Keet is a 100,000-pound producer. Pictures of his apiary and buildings appeared in the October, 1933, number of Gleanings.

E. H. Pratt & Son, of Oneida, New York, are also getting a normal crop this year. Mr. Pratt has about 1300 colonies of bees, and he produces both comb and extracted honey. He has two 45-frame extractors from which the honey is pumped into four tall honey tanks. The larger particles of wax and comb are screened out before the honey goes into the tank, then the air and small bits of wax are separated by the gravity plan, the clear honey being drawn off the bottom. The cappings are dried in the extractor.

The honey, which is mainly from sweet clover and alfalfa, is light in color and surprisingly heavy for this particular season.

Mr. Pratt prefers eight-frame hives for comb-honey production as he says he gets the sections in the outer rows better filled over colonies in eight-frame hives. We saw a number of supers just beginning to be capped whereas the sections of foundation had been put on the hives less than a week before. Is there anything more beautiful than a colony of bees just beginning to cap beautiful snow white comb honey?

When the honey flow is about to start Mr. Pratt puts the old queen with a few of the bees in a hive just back of the former hive with the entrance at right angles to the former entrance. The brood and most of the bees are left on the old

Mr. and Mrs. Leroy Keet, of Watertown, N. Y., and their daughters, Elinor and Helen. No, Mr. Keet is not wearing his bee-yard clothes.

E. H. Pratt, of Oneida, N. Y., in the midst of a hundred-colony comb honey yard.

stand and these bees rear a new queen. All of the honey is produced on the old stand by the bees having the new queens.

Mr. Pratt winters out-of-doors in large packing cases. Located in the great Oneida valley, most of his yards are sheltered from the very high winds.

After the fall work is completed, Mr. Pratt and his wife spend their winters in the South, living in a very beautifully equipped trailer, which, while home-made, has every convenience of a Pullman car.

Mrs. Mabel Parker, of Nedrow, New York, has all her bees in one yard, about 150 colonies, and they are run for comb honey. On August 9, very little surplus honey had been stored but a honey flow was apparently just beginning. As in many other localities, there had been so much rainfall that the bees were unable to get started. Strange that the first year of rainfall, after so many years of drouth, should be marked by excessive rains and floods in so many localities.

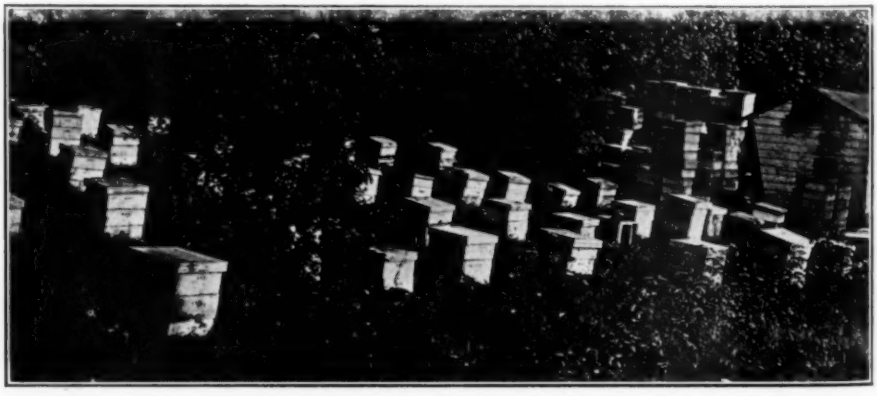
One of Mrs. Parker's sons helps her with the heavier work in preparing the

Howard Myers auctioneering donated queens at the New York State Beekeepers' picnic at Cayuga Lake State Park. The proceeds, over $28.00, was sent to the American Honey Institute.

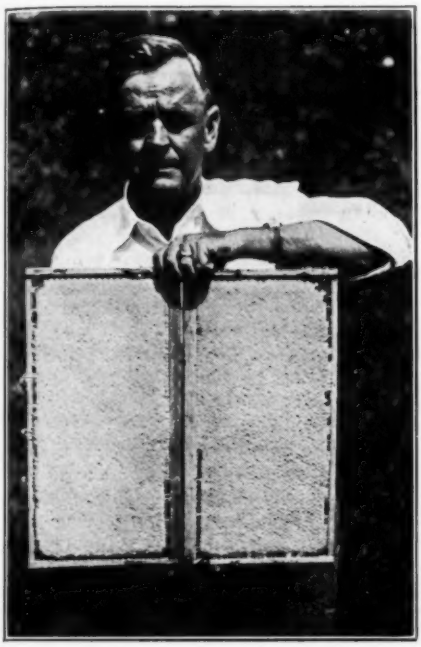
bees for winter, but in the main, Mrs. Parker herself takes full care of the bees.

Danger of Thin Honey

Whether the rains are entirely responsible for it, or merely incidental to it, the fact remains that the honey from many parts of the United States this year, is



Comb honey apiary of 150 colonies owned and managed by Mrs. Mabel Parker of Nedrow, N. Y.



Ed Cary of Syracuse, trying not to look proud of his perfect combs.

pretty thin. It is logical to suppose that with an extra amount of moisture in the atmosphere, the bees have difficulty in evaporating the honey. We have seen comb honey, from a locality that ordinarily produces heavy honey, so thin that when cut the honey runs almost like water. There is no question but that bees prefer to cap honey only when it has been fully evaporated. It also seems clear that under extremely wet conditions they find difficulty in evaporating, therefore, cap the honey anyway.

The greatest care should be used this particular season in uncapping only from combs that are at least three-fourths sealed over. It does not pay to mix thin honey with thick honey. The very thinnest ought to be kept by itself and sold separately. Likewise the medium should be kept by itself. Bakers who are just now beginning to use honey in large quantities will be sadly disillusioned if they have honey ferment before they can use it or if the honey is so thin that it spoils the "mix." Every producer has the future to think of and that means more than selling just one crop.—H. H. Root.

A queen bee was presented to the oldest beekeeper at the New York State Beekeepers' picnic. Mr. M. H. Fairbanks, at 79, is old in years only.

American Honey Institute Not Supported by Montana Beekeepers

All of us who are members of the American Honey Institute are interested enough to look over the honor roll. This gives us an idea what beekeepers in the other states are doing to further honey advertising. No doubt it has been noticed that Montana is practically non-existant so far as such support is concerned. Perhaps this has led some to conclude that very little honey is produced.

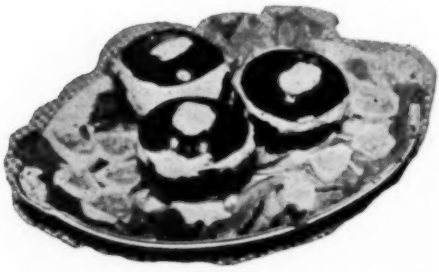
Montana is one of the main honey producing states of the Union. Vast quantities of alfalfa and sweet clover honey are produced, to say nothing of honey from other sources. Some companies ship bees into the state in the spring, get the cream of the crop, and depart. They produce hundreds of tons of honey. Many make beekeeping a more permanent affair and apiaries of over 100 colonies are common. However, the state is so large that the beekeepers seldom know each other.

Don't shirk as the Montanans have been doing. Let's all get behind the American Honey Institute with gladness and cash. We need its help desperately and it's time to do our share.—Chas. E. Criger, Livingston, Montana.

From the Field of Experience

FOR HOT DAYS

Refreshing Drinks, Appetizing Salads, Delicious Ice Cream Made the Honey Way



Long, hot summer days call for refreshing drinks in tall frosty glasses. Flagging appetites are whetted by tasty, colorful salads. And, of course, there must be plenty of ice cream—that almost universal favorite. These hot weather aids made the honey-way are tempting and refreshing!

In making beverages, the amount of honey required depends upon personal taste. Unless one is very fond of a decided honey flavor, mildly flavored honeys give more pleasing results. Blend the honey with a bit of warm water or a small portion of fruit juice before adding other ingredients.

This Fruit Lemonade is as wholesome as it is delicious: One tablespoon pineapple juice, 3 tablespoons lemon juice, 8 tablespoons orange juice, 2 tablespoons of crushed strawberries, 3 tablespoons of honey blended with one-fourth cup warm water and a pinch of salt.

Combine and mix the fruit juices, add crushed strawberries and salt. Combine honey with warm water and add to this, one and three-fourths cups of water. Pour over cracked ice placed in tea glasses. Garnish with sprigs of mint or marachino cherries if desired.

For that picnic nothing is a surer thirst quencher than honey lemonade: Five pounds mildly flavored honey, 2 quarts lemon juice and one and one-half quarts of hot water.

Dissolve the honey in the hot water and add lemon juice. Then add sufficient ice water to make three gallons of lemonade. These proportions allow for dilution caused by ice melting. Pour over cracked ice. For convenience, the juice may be prepared in advance, combined with the honey, then chilled in fruit jars and water added when picnic grounds are reached.

Healthful salads are easily and quickly combined from the many fresh fruits and crisp vegetables available all through the summer, when mayonnaise is mixed or salad dressing is cooked in the cool of early morning and stored in the refrigerator until needed.

To make delicious honey mayonnaise you will need strong arms and a deal of patience in addition to one egg, 2 tablespoons honey, 1 teaspoon salt, 1 teaspoon mustard, 1½ cups salad oil, 2 tablespoons honey or cider vinegar and a dash of cayenne pepper and paprika.

Honey drinks, in tall frosty glasses.

Break the egg into a conical shaped bowl, add mustard, salt, cayenne, paprika, and 2 teaspoons of the vinegar. Beat thoroughly with a good rotary or an electric beater. Add the oil, a tablespoonful at a time, thoroughly beating the mixture after each addition until about one-half cup is added and dressing is thick. Larger quantities of oil may now be added at a time until one cup has been used.

Combine remaining vinegar and lemon juice and add alternately with the rest of the oil, beating vigorously after each addition. Add honey and beat. When finished dressing should be smooth and thick. This dressing may be varied by adding chopped olives, pickles, pimento or grated onion to suit the taste.

For those who do not like an oil dressing, this tasty boiled dressing is sure to please: One egg, 2 tablespoons honey, ½ cup vinegar, 1 cup water, 4 tablespoons melted butter, 2 tablespoons cornstarch, 1 teaspoon salt, ½ teaspoon mustard and a dash of cayenne pepper.

Blend butter and cornstarch; add water slowly and cook in top part of double boiler until thick. To the lightly beaten egg, add salt, pepper, mustard and honey, and stir into the thickened mixture. Stirring constantly, cook mixture until thick. Dilute with cream, plain or whipped, when ready to serve.

Summer isn't quite right without lots of ice cream. Particularly where there are children in the family, the richer creams are impractical and undesirable as well, if ice cream is to be served very often. So do try these healthful ones!

Allow two cups of coarse salt to the crushed ice necessary for a two-quart freezer and an additional cup for packing. All ice cream is improved by allowing it to stand, well packed, for an hour or more after freezing and seems particularly true of honey-made ones. A two-quart freezer will serve eight people generously and with crushed fruit may be extended to serve ten. Fill the container in which it is to be frozen, two-thirds full to allow for expansion in freezing.

In the automatic refrigerator, a very simple service may be made by placing the unfrozen mixture in paper cups. Serve in the cases.

The marshmallows in this particular recipe make an ice cream which is smooth, creamy, inexpensive and easy to make. Then topped with this delightful honey sauce you'll pass up your dish even more times than usual! Assemble one cup milk, 20 marshmallows, 1 tablespoon vanilla or honey, ¼ teaspoon salt and 1 cup cream whipped.

Put marshmallows and milk in the top of a double boiler and steam over hot water until marshmallows are melted. Add vanilla or honey and salt, then cool. When quite cold and beginning to stiffen, combine thoroughly with the stiffly beaten cream. Freeze.

Honey Scotch Sauce—One-fourth cup butter 2 tablespoons cornstarch, 1½ cups honey, ½ cup boiling water, 1 tablespoon lemon juice, ¼ teaspoon salt and 8 marshmallows, cut in quarters.

Melt butter in a saucepan. Remove from heat, add cornstarch and stir until smooth. Add honey and water. Return to flame and simmer slowly for 5 minutes. Add salt, lemon juice and marshmallows. Remove from heat as soon as marshmallows have melted. Serve warm or hot over the ice cream.

Honey ice cream and some delicious honey cakes to eat with it.

If chocolate is your favorite flavor combine: One square of chocolate, ¾ cup mild honey, 1½ cups milk, 2 eggs, 2 cups cream, 1 teaspoon vanilla and a pinch of salt.

Pour scalded milk over lightly beaten eggs, add honey and melted chocolate. Cook over boiling water until mixture coats a spoon. Cool and add cream which has been whipped and the vanilla. Freeze.

Honey drizzled over ice cream then topped with chopped nutmeats, marachino cherries or Rice Krispies makes delicious sundaes. Honey blends perfectly with fresh fruits, making an almost endless variety of dressings for ice cream.

Try these delicious combinations and enjoy healthful, refreshing foods while the bees gather more sweetness during the days when old Sol beams his hardest! —Mrs. Benjamin Nielsen, Aurora, Nebraska.

MOVING BEES A SHORT DISTANCE

Leaving Empty Hive on Old Stand Overcame Problem of Returning Bees

On one occasion I moved several hives 100 feet to a location screened by buildings from the old stand. The number of bees which returned the next day was so great that I decided to salvage them, if possible. For this purpose I placed a spare hive at the old location and placed a frame of young brood and nine frames of stores in it. The wandering bees adopted the new home and I subsequently built them up with additional brood. The result was a nice colony with a young queen. These bees were Italians.

The following year I decided to repeat the experiment but was interrupted immediately after placing an empty hive at the old location. Half an hour later when I returned to the bee yard I found that the bees around the empty hive had dwindled considerably in numbers and a mere handful were in the hive wandering aimlessly around. Close watch proved to me that the wanderers were slowly drifting back to their hives and settling down. Since then I have found with Caucasian bees (the only ones I have had since noting the effect of the empty hive) that the drifters will hang around the old location only long enough to investigate every cranny of the empty hive and will then disgustedly return home.

This behavior can probably be explained if you will note that after a colony has been moved a short distance there are a number of bees which travel bewilderedly between the old and new location in addition to the larger number which persistently fly around the old familiar spot. The empty hive body probably serves to bring these two types of wanderers close enough for communication and those who know the way set the others straight.

At any rate, I have found the empty hive a simple way to overcome the problem of the short move. This hive may be removed after being in place one day as I have never noticed any tendency for the bees to return after the first flight day.—L. W. Gammell, Attleboro, Mass.

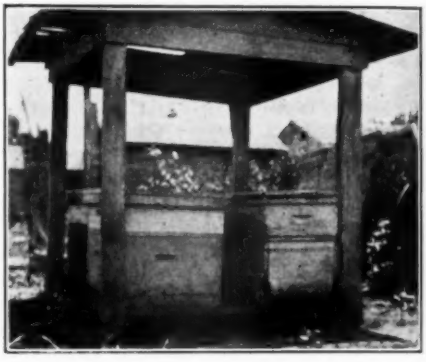
[For short distance moving we have found that it is better to leave nothing at the old location, not even an empty hive. —Editor.]

A UNIQUE SHELTER

Neither Too Much Shade Nor Too Much Sun, and Plenty of Air

Most beekeepers have their own ideas as to what type of shelter their bees should have. For an all-around shelter I believe the one illustrated about meets the needs.

There is room for four hives, and each hive faces a different direction. This prevents drifting both by the workers and the possible loss of a young queen as she returns from her maiden flight. The



The shelter provides room for four hives, each facing a different direction.

hives are set on a board foundation which is clean and free from obstacles such as grass, toads, spiders, etc. The beekeeper is able to manipulate the hives and supers while standing on the outside of the shed.

During the middle part of the day in torrid weather, the roof prevents the scorching sun from making the bees uncomfortable but the shelter is open in order to catch the breeze. Also the roof prevents large hailstones which are numerous in this state in the spring, from beating down on the hives.

This shelter is simple to construct and for an improvement, a concrete foundation for the hives may be substituted for the wooden one.

I believe it is best that one should not go to the extreme in providing too much shade nor too much sunshine. A moderate amount of both is most beneficial. For the beekeeper who has only a few colonies, the above shelter is very satisfactory.—Clarence J. Tontz, Stillwater, Okla.

CONTROL OF SWARMING

Causes of Swarming, Also Swarm Control Measures Differ Somewhat in Jamaica

There is an interesting editorial in the August, 1934, number of Gleanings, discussing the time at which swarming occurs. The writer ends with the conclusion that swarming is mainly due to congestion in the hive resulting from the faulty supering of colonies which reach their peak of strength prior to the main honey flow.

In view of the above, perhaps my experience of swarming during the past season, under tropical conditions, may be of interest, especially to southern beekeepers.

Owing to the exceptionally wet and stormy summer and autumn of 1933 I had great difficulty in getting the bees requeened and built up to strength in time for real business, beginning about the middle of March, and in many cases those colonies which were up to strength by March, were headed by queens which ought, strictly speaking, to have been replaced during the previous autumn.

In every case in which a colony was headed by a queen which had taken an appreciable part in the honey gathering of the previous season, that colony swarmed or attempted to swarm, regardless of the condition of the supers. Contrarily, no colony headed by a new queen made any attempt to swarm, even when forced to completely fill its super before being given additional storage space, until the settled hot weather set in in late July and August. Then there was a general tendency to build swarming cells, especially if the hives were the least bit crowded.

This experience has led me to conclude that in a southern climate, where the honey flow is long and intermittent, the deciding factors in the control of swarming are much more the temperature and the condition of the queens than the amount of storage space available in the hives.—A. L. Bartlett, Jamaica, B. W. I.

BEES AND BEARS

The Bears Apparently Like Their Master Because He Feeds Them Honey

I am keeper of the bears in the New York Zoological Park. Fifteen years ago I started keeping bees on a wild, rocky ledge above the polar bear and grizzly bear dens, first two colonies, then six, and now only three because of an accident to my arm.

I keep bees because I never get tired of studying their interesting ways. Pollen is not easy to find in New York City, but my bees bring me about 75 pounds of delicious honey from each stand. I feed honey to my bears, give it to friends

Mr. Romanoff keeps his bees on a wild, rocky ledge over the bear pits.

and use it myself, but I don't mind making money from my hobby so I sell the surplus. I have made exhibition hives for restaurants that served my honey.

Altogether my expenses have been about $125 and without half trying, I took in over $200 as a profit, in spite of myself.

The biggest profit, I think, is the pleasure of beekeeping, the smile of thanks when I give honey to friends and their

Peter Romanoff getting his morning kiss from the bear he raised from cubhood.

stories of how they enjoyed it. My bees have made friends and through me a judge of the State Supreme Court, a retired policeman, a newspaper editor, and almost a dozen others have started keeping bees.—Peter Romanoff, Keeper of the Bears, New York Zoological Park, New York City.

CAN YOU BELIEVE IT?

Laying Queen Trapped in Queen Cell for a Time Chews Her Way Out

A very unusual thing happened while I was raising brood at one of our outyards. I have seen honeybees sealed inside of queen cells but never have I heard or read of a clipped queen being sealed inside of one. It was a rather large cell and somehow she had turned around inside the cell and was gnawing her way out when I found her. I thought it was just a ripe cell and put it in a nursery cage.

I could hardly believe it was the old queen but the clipped wing and lack of eggs and young brood was proof of it. She had been inside the cell about 8 or 10 days as near as I could tell by the brood and was very large yet and lively (when hatched the second time.) My father, a beekeeper of long experience, said he had never heard of this before.—Mrs. Ruth Tucker Delphos, Ohio.

[The occurrence is certainly very unusual. Why the bees should seal up an old queen in a queen cell is hard to explain. Why was she there in the first place? Why did the bees seal her up? and why didn't she starve? It may be one of nature's freak moves to supersede. All we can say is like Dr. C. C. Miller of old, "I don't know." "Hatched the second time" makes it harder to believe. Can any one of our readers throw any light on it?—Editor.]

COMMENTS ON CURRENT ITEMS

In reading in the various journals descriptions of the latest methods of taking care of cappings, reliquefying honey in glass and a multitude of other ways of doing things, it has occurred to me that a description of methods we used years ago might interest the beginner who can not afford the extra equipment.

We had a large unused tub that after a good scrubbing with hot water, we dumped the cappings into and filled the tub within about three inches of the top with lukewarm water. After washing our hands and thoroughly stirring the cappings we picked up a double handful of cappings, squeezed out all the water we could and found it was a good plan to put the ball of cappings into another of clear water, filling tub about one-quarter full of water. In a few days our cappings were so dry we could send them to the factory to be made into foundation.

We are almost ashamed to say that up to 1929 we did not practice top supering. That bees waste time carrying the new honey clear to the top of the tier of supers after entering the hive, I think you will find a mistake. A bee at the honey-gathering stage does not waste her time like that. She passes it to one of the youngsters who hastens to the cells in the upper part of the hive, deposits it,

and hastens down for more. In fact, bees were the first to inaugurate a "bucket brigade."

Mr. Emery Ward, page 475, gives out samples of his honey to increase trade. The principle is sound for those who sell their honey by calling at the homes.

Long experience in selling honey at a roadside stand convinced me that it is a great mistake to have too many sizes of containers. We use only the screw top pint jar and the five-pound pail. We lost but two customers the whole season by not having a smaller glass.

Venom as a medicine, by Penn G. Snyder, page 477. Well, why not? A few months ago E. R. Root said two men called at his office asking for fall honey as an antidote for hay fever. We wrote that two men had called at my town residence for dark honey for the same trouble. Last week two young men from our summer resort a mile away asked for honey for the same trouble. They were fine robust men, One of them had the hay fever so badly that the water was running from his eyes. Fall honey contains pollen from the flower dust of the pollen that causes hay fever; therefore it kills the germs that are present in hay fever.—J. F. Dunn, Ridgway, Ontario.

SPINSTER JANE SAYS—

"He is not worthy of the honey-comb
Who shuns the hive because the bees have stings."

I do not know by whom the above was written, but there is a deal of wisdom packed in those two lines. They express briefly the fear so common in humans, of physical pain, of the hard spots in life generally. And isn't it true of more than bees? There are stings and stings. Stings are really typical of the hardships, drawbacks, and difficulties, found besetting us in our reaching out to attain any desired goal.

The poor farm boy desiring an education, finds working his way through college hard indeed. Many are the stings he gets, and these hurt and rankle, but in the end, if he perseveres, the "honey-comb" is attained, and the honey it contains is all the sweeter because of those self-same stings. Stings add spice and zest, unless we are mighty poor sports, spineless and weak.

These years will never be forgotten because of their stings. Not all have been weakened because of the dole or relief, to be had too easily. We know of families who are valiantly struggling along rather than accept what so many clamor for. A bag of flour to them is a veritable God-send; meat is an unknown quantity entirely; fruit, too, was too great a luxury until old Mother Nature—bless her!—supplied it bountifully in our fine crop of wild blueberries and raspberries. Fruit, to many this year, was as welcome as that old-time manna in the wilderness, and soon mushrooms will be as appetizing and satisfying as were the biblical, heaven-sent quails. We of the North pity the children in the hot cities, and wish we could share our fruit, and shade, and quiet, with them.

In a recent New York paper I read of a new honey facial. Yes, honey is coming into its own, through all sorts of publicity. If we could only get all the women and girls using cosmetics, to use honey instead—well, prices would soar for the beekeeper.

It really is a bleach—a mild one—it softens the skin, makes it satin-smooth, and one need not fear the presence of any poisonous drug. If famous beauties of old found it satisfactory, why not our modern girls?

One of our girls pronounced the honey compound, of which I wrote some time ago, the best thing she had ever used to dry up, heal, and banish pimples. For oily skin its works wonders. And now since our women are giving honey so much publicity, why do not our men-folk use it after shaving? What sort of effect would it have? Of course, it must be carefully washed off with warm water, after a few minutes. I believe, to put it in the words of some gushing young thing, "It would be just too sweet for anything."

Here in Canada, crops are good, and a big federal election is coming. Surely some foretaste of what we are being promised will be handed out as a sort of sample of the great things we are led to expect!

We have peaceful homes beautified with multi-colored flowers, the musical hum of bees all about. Contrast this picture with the lot of those just across the seas, over whom black war clouds hang, and let us all be truly thankful. The sting of war is fatal to both peace and prosperity.—Spinster Jane.

Editorials

The Package Bee Amendment

There are probably some beekeepers who would prefer to see the package bee code killed so that they could get their bees and queens at a lower price. On the other hand, it has been stated that before the Marketing Agreement affecting bees and queens under the A. A. A. went into effect, there were slashing of prices, light weight packages, poor queens, and no end of complaints. It looks now as if the *amendment* has been killed through ridicule in the U. S. Senate.

Senator Glass, one of the leading senators, poked fun at the idea of "conferring on the Secretary of Agriculture the right to bring about birth control among bees," of the futility of controlling the drones, etc. He made the thing a huge joke. The committee had up to that time accepted the amendment affecting bees and but for the jokes the amendment would have gone through with the rest.

Of course, birth control was not a part of the amendment sponsored by the American Honey Producers' League. The real issue was befogged and killed.

It should be said that the Supreme Court has not yet declared that the A. A. A. is unconstitutional as it did the N. R. A., and until then, the bee package agreement is still in force. The purpose of the amendment was to continue in effect the bee package agreement of fair prices in the advent of an adverse decision.

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Passing of the Five-banded Craze

About 20 years ago there was a craze for "yellow all over" bees, or what was then very often called five-banded yellow Italians. Nearly all the queen breeders in the country had to supply these extra yellow bees or lose some very important business. The result was that there were bees that were beautiful but of not much value in honey production. When these bees were bred from yellow Cyprians it resulted in a strain that was so cross that the demand for beauty soon subsided.

This extra yellow banded craze continued, however, for a period of nearly twenty years, notwithstanding that we, in this journal, were constantly preaching and advocating bees for business, which usually meant two and three-banded yellow Italians of near-imported Italian stock.

Today there is hardly any call for the extra yellow bees. They were nice for display at fairs and that is about all the value they had. The tendency now is toward darker colored bees, or what is commonly called leather-colored Italians. They show two bands of muddy yellow quite distinctly and a third band very indistinctly, in fact, one might almost call them two-banded.

As a rule, these dark Italians are good workers and very gentle. The honey producers of the country have finally come to the very sensible conclusion that hardy bees, bred for honey production, are usually leather-colored Italians, or the old original stock as it came from Italy. It should be born in mind that the best imported Italians come from the northern Alps where the climate is very cold, the honey flora limited and where there are few or no bee enemies of any sort. The bees are very gentle, good workers and very hardy.

In the same way, Caucasians bred up in the mountain regions, where it is very cold, says Phillips, are gentler and better workers than the same strain of bees produced in the valleys where the climate is much warmer and the bee enemies are more common.

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National Convention at Detroit

Special attention is called to the national convention of the American Honey Producers' League and the American Honey Institute at Detroit, Michigan, October 7 to 10. A very interesting program is in the making. The hosts, the Michigan State Beekeepers' Association, are determined to make this one of the most profitable and enjoyable meetings ever held.

The Second National Cookery contest, sponsored by the American Honey Institute, will be one of the attractive features. All the entries will be on display at Hotel

Statler, the headquarters of the convention. The American Honey Producers' League will have feature programs.

A delegation of beekeepers from Canada is expected. The time for meeting is convenient for most beekeepers.

The Southern States Federation, that met with the League and the Institute last December at Valdosta, Georgia, will meet this year at Nashville, Tennessee, December 2.

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Wet Weather Retards Normal Nectar Secretion

In some of the eastern states where rainy weather has prevailed the honey flow has been somewhat disappointing. Earlier in the season when alsike clover was at its best some surplus honey was secured.

Ordinarily during dry seasons sweet clover and alfalfa have yielded well. Apparently the wet weather and a high degree of humidity have affected normal nectar secretion in these plants. In many regions throughout the eastern and middle western states alfalfa is at its height, but it is yielding very little nectar.

Should the weather turn dry and remain hot, it is just possible some surplus may yet be obtained from alfalfa, at least some commercial beekeepers are still hopeful that it may begin yielding.

It appears that sweet clover and alfalfa yield better during dry seasons, provided the plants received sufficient moisture earlier in the season.

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Bees Resent Careless Handling

Unfortunately there are a few careless or otherwise unintelligent beekeepers who apparently have little or no regard for the rights of their bees. Bees have some rights. Bees should be handled only when conditions are favorable. In honey producing apiaries it is unnecessary to tear into colonies of bees, yank off hive covers and pull out combs without even taking time to smoke the bees properly. Certainly it is unwise to attempt to examine brood chambers of colonies during a cool day, or, even during a warm day, if nectar is not coming in freely.

Shippers of package bees, on account of the necessity of shipping on schedule, may be obliged occasionally to work bees during unfavorable weather, even during a rain. Bee shippers are well prepared to withstand stings. Apiaries from which bees are shaken to fill orders are usually located in woods, away from dwellings, cultivated fields, and highways, so that there may be no danger of unprotected humans or animals being stung.

In commercial honey producing apiaries a certain amount of routine work must be done on schedule. Managers of such apiaries are learning that it pays to respect the rights of bees, in a measure, at least. Trouble with neighbors, on account of cross bees, may frequently be averted by using common sense in selecting the proper time for manipulating colonies. It pays to take time to use a bee smoker properly. Never stand in front of hives to intercept the flight of bees. Handle combs deliberately and carefully, and do not kill bees unnecessarily.

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Why So Little White Clover Honey?

With thousands upon thousands of acres of white Dutch clover in bloom, accompanied by plenty of rain the question has been raised as to why there has not been more white clover honey this year.

Whether true or not, it is generally believed that the first year's bloom of white clover from seeding does not yield much nectar.

Virgil Weaver, of Kentucky, in a series of articles written some years ago, made this statement and no proof has been advanced to the contrary. If true, it explains why white clover did not yield much honey this year when all conditions were favorable except the age of the plant. Most of the white clover, on account of drouth for the last five years, has been conspicuous by its absence. This year copious rains fell all over the so-called white clover belt resulting in a magnificent growth of old-fashioned white clover, the like of which has not been seen in years. It is a significant fact that at this writing (August 20), we have not received reports of old-fashioned crops of pure white clover honey. When we say "pure" we mean free from a natural blend of white or yellow sweet clover or alfalfa.

How and Why Strainer Cloths Cause Bubbles in Honey

Our Senior Editor did not notice that there was an apparent conflict of opinion between Vernon C. Culhane and the Editor on this matter of straining honey through cloth to take out sediment and air bubbles. Mr. Vernon C. Culhane very correctly says, on page 461 of our last issue, that strainers cause air bubbles. Our editorial page 480, goes on to explain how strainers may eliminate air bubbles. There is no real conflict of treatment when the two methods are compared. If hot honey is run through two thicknesses of wet cheesecloth, or common muslin, the drippings passing through an air space down into honey below, a large number of air bubbles will be caused and it is herein where many beekeepers and bottlers make a very serious mistake. When the honey falls a few inches through air it carries air with it. This forms minute air bubbles with the result that the honey when bottled will be cloudy. If, however, the plans shown on page 480 are followed out exactly in detail there will be few or no bubbles. The strainer cloth should always be completely submerged under the honey.

In order to make the honey sparkling clear, the surface of the honey, while in the process of heating, should be frequently skimmed. This is very important.

It was Mr. Carl Hurst, of Columbus, Ohio, who first used strainer cloths completely submerged in the honey, leaving no air space from the bottom of the cloth to the honey below.

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Honey Crop Estimates and Prices for 1935

The early reports from most sections of the country east of the Mississippi showing copious rains and enormous areas of white clover indicated a bumper crop of white and sweet clover honey in that portion of the country where most of the honey in normal years is produced. Later reports up to the time of going to press do not justify the early forecast of a big crop in the East. While it is yet too early to make reliable estimates we are justified in the belief that the aggregate will still be below normal.

There are three reasons for this. First, there have been in some sections too many rainy days for the bees to get out and gather the nectar. In some places the weather has been too cool, and in others it seemed to be too hot. Second, white clover from the first year's seeding, as has been pointed out elsewhere, does not yield much honey for the same year. By the same token if the ground continues to be moist enough there should be a bumper crop next year from this source. Again, much of the honey is still on the hives to be ripened by the bees. The atmosphere has been too humid for them to do fast work, and it will be another month yet, or after this honey has been taken off, before we shall know what the crop of honey in the East has been.

Taking it all in all, it is a safe bet, that the yield in the East has not been up to the early forecast. It has been light if anything and prices should remain firm, if not take an advance.

In the middle West there has been too much drouth. In the Rockies, reports do not indicate much of a crop. California shows up a little better.

If the crop has been light in the East generally buyers will absorb western honey, what there is of it, at low prices if they can get it. Gleanings does not advise accepting the first low offer, but beekeepers generally don't lose if they wait a little before accepting any offer. There will be not a few beekeepers desperately in need of cash who will take the first offer. If there are enough of them they can set the pace.

The conditions in most parts of the East have been very favorable for a fall flow of honey. This will insure good honey for a winter food. Those who use the food chamber system should be able to get them filled with any good fall honey, which, if thoroughly sealed and ripened in the combs, will make good stores.

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Moisture Content of Honey Important

This season, in the East especially with its frequent rains and humid atmosphere, has brought new problems to the beekeeper and the honey buyer. Much of the honey will have too high a water content unless left on the hives long enough to become thoroughly ripened and even then, some of the honey will have too much moisture to comply

(Continued on page 569.)

From North, East, West and South

SOUTHERN CALIFORNIA, August 4.

Weather: The shortening days are becoming quite noticeable, and with the cooler nights we feel that the hottest weather may be over. In fact, we have very few days hot enough to be uncomfortable to the extent that we feel like taking to the shade. Some nice thunder showers have fallen in some of the mountain sections since our last letter, but most of it fell in territory where few if any bees are kept. The writer spent a day in the Imperial Valley since our last letter and it was sure warm down there, but when they have plenty of water to irrigate, that is the time when things grow, and they have plenty this year, thanks to the Hoover Dam.

Honey Crop: Last month we said that wild buckwheat was just beginning to yield. Well, we can still say the same for so far as we have been able to observe that is all it has done—just begun to yield. It is a disappointment—that is all. To see thousands of acres white with the blossoms and only a bee here and there smelling around, and no noticeable increase in the weight of the hives, well, it is just too bad and we can not help feeling that a wonderful chance has slipped some place. Had the buckwheat yielded as it does at times, southern California would have made one of its record crops. As it is, we do not feel like raising our last month's guess and might lower it ten or fifteen pounds per colony. Some of the reports we have are: Imperial, about one-half crop; Arizona, very short; San Diego, San Bernardino and Riverside Counties spotted. White sage, sumac, and toyon yielded a record crop, but, of course, cover only a small part of Riverside and San Diego counties.

Buyers are coming around in increasing numbers, and it looks like a strengthening in the market conditions and the prices offered. We know of no large lots being sold. The larger producers prefer to warehouse their honey and hope for better prices a little later rather than sell at present prices which are only the cost of production in a good year and leaves no allowance for the lean years that are sure to be with us again.

Beeswax: A few of the beekeepers have their wax in condition for market but most of them still have it to clarify. The fellow who uses the capping melter has a small job getting his wax ready after the extracting is over but the fellow who drains his cappings and depends upon the solar wax melter to finish up still has quite a job. While there is no special demand, the market stays around 18 cents per pound.

Miscellaneous: San Bernardino County beekeepers held a meeting August 3, and Riverside County, August 5. Picnic dinners at both places. A talk by Dr. Eckert and demonstrations in apiary work were the high lights of the San Bernardino meeting. A general discussion was the feature of the Riverside meeting. The effects of the copious rains on next year's crop prospect will be anxiously watched by a number of beekeepers as well as members of the staff at Davis. There were reports from the fellow who has made a big yield per colony and also the fellow who has fifty colonies for sale that have not been extracted this year. It takes all kinds to make up the fraternity. The writer spent three very profitable days at the San Diego exposition, and saw things. While there was not a great deal of honey, what there was, was well displayed.

Most apiaries have been increased well up to their original numbers and are in good shape for stores, very few beekeepers being inclined to "rob" their bees very close, that sugar buying seige of last year having been a lesson to most of us.—L. L. Andrews, Corona, California.

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NORTHERN CALIFORNIA, August 2.

Weather: We can not, as most reporters do, commence our letter with an account of the weather. It is simply clear, clear, clear.

Honey Crop: Beekeepers here in northern California do not have any fear of rain to disturb in any way the production of honey, that is, the honey flow, for we do not have rain in summer. Day after day the sun shines from early spring till late in the fall. In some ways this condi-

tion is favorable to the beekeeper. This is especially true when we have had plenty of rain during the winter months such as we had the past winter. Every beekeeper in California can tell you that after a good rainfall in the winter we may expect a good honey crop the next summer. Even at that many fail to be ready and the chances for a good crop pass with poor results. In our report for August we stated that the honey season in the mountains had passed and the bees were commencing in the alfalfa. Now we can make a partial report on the above. In the alfalfa the weather did not cut a figure—the nights were too cool and the same could be said of too many of the days. The alfalfa crop will not be as good as that of the past two years. There is still hopes for a crop from lima beans and star thistle. It is a fact that the star thistle district is overcrowded. There is hope for the beekeeper who has plenty of good queens and his bees in the right condition. Many bees have been moved in and placed near locations that have been occupied by the present beekeepers for several years. This causes trouble, but we have not found a way to prevent it.

Beeswax: There is a lot of wax on the market but the price has changed but little. Beekeepers have turned more than their usual amount of wax into foundation. This is hopeful.

Miscellaneous: Another hopeful sign is the fine meetings that are being held in various parts of the state.

Inspection work has been more general than usual. The results are very gratifying to the beekeepers. Thus far this season there has not been an unpleasant report received at the office of the State Association.

Dr. J. E. Eckert of the University of California has returned from his vacation, a good part of which was used for the interests of the beekeepers of the state. Our beekeepers owe a debt of gratitude to Dr. Eckert for his untiring effort in their behalf. It was a pleased audience who heard his report at the summer meeting at Davis in which he gave account of his experience accompanying a carload of package bees and queens to Canada. This report will be in print soon and all members of the Association will be supplied with a copy.—Cary W. Hartman, Oakland, California.

WESTERN WASHINGTON, August 9.

Weather: After unusually dry weather through April and May, there was a sudden change, and June and July, which are commonly the two driest months of the year, were interspersed with showers of short duration, which did not greatly interfere with the flight of bees. July was by far the warmer of the two summer months, with a maximum of 93 degrees, which lasted but a few days. The average for the daylight hours during the month was about 80 degrees.

Honey Crop: Owing to these summer rains, white clover is now yielding nectar, and growth of fireweed in the lowlands is the most polific in years. The latter has been in bloom for 30 days, and should continue for at least two weeks more. In years past it has been a common practice for beekeepers in the lower country to move their bees to the mountains for the fireweed flow, which is usually at its best in August—blooming later in the higher altitudes. But with the prospect of a fair honey flow at home, some have decided not to move this year. However, the increase in yield for those who do move will doubtless bring ample rewards for labor expended. All things taken into consideration, the prospect for a honey crop is somewhat better than average.—Ewing C. Pershall, Edmonds, Washington.

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ARIZONA, August 3.

Weather: Rains have been general over all of the state the past two weeks of July. In the higher elevations we have had several days of good rains which have made weather conditions much cooler.

Honey Crop: The only honey crop yet to come is the cotton and alfalfa. More honey comes from the long staple cotton than the short. The amount of honey from this source depends a great deal on the acreage planted to long staple this season. I have no definite reports from the cotton area so do not know just what the prospects are in the valley. Local rains should bring up an abundance of wild flowers for bees to fill up well for winter and also bring on ideal conditions for requeening.

Miscellaneous: A local bottler and distributor for about all of southern Arizona informs me there has been no let-up in

the demand for honey this summer. He said he had to continue bottling the same amount of honey each week that he bottled each week earlier in the spring to supply the trade. This may be accounted for in the fact that a large number of mines are working now, due to the price of gold and silver. Local demand is well above the average and hope it continues so. Have not heard of any carlot sales being made to date, though some may have already moved to market.—Leslie Wedgworth, Oracle, Arizona.

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TEXAS, August 1.

Weather: The weather for July brought to an end the largest and most widespread horsemint honey flow for ten years. The entire month could be classed as very dry but with no high temperatures. The low humidity and heat very probably saved the beekeepers a great deal of extra work as the horsemint nectar was collected during wet weather and in previous years such a collection has been followed by fermentation both in the combs and after extraction. The bees are normal. This is the summer quiescent period and no great activity is looked for. In the river valleys and the black land belt bees are collecting nectar from cotton. However, as the leaf worm and boll weevil are very prevalent large amounts of poison are being applied. Beekeepers in those sections are reporting the loss of colonies and many others are moving their bees to locations where poisoning is not practiced. It seems that if the government is to pay the cotton grower to increase his income it should pay the beekeeper for the colonies of bees destroyed by the cotton farmers. Rains the last week of July have brought into bloom white brush and some honey flow has resulted. This will add nothing to the crop of honey to be taken or to the winter stores as it will be used up in fall brood rearing.

Honey Crop: The honey crop of the state is reported as being normal or above for hive production and individual beekeeper production. It is, however, low as far as state production is concerned as during the past four years of drouth large numbers of beekeepers have gone out of business. The bulk of the honey produced is reported as being mainly from horsemint. The demand seems to be fair and the prices are individual things between buyers and producers. There seems to be no standard price. Quite a number of beekeepers in southwest Texas reported that they made a normal spring crop from guajillo-catsclaw and that they had sold it at a satisfactory price, most of it being sold as chunk comb honey.

Miscellaneous: The Texas Beekeepers' Association held their annual meeting at College Station, July 29 and 30. It had the largest attendance for five years. Among the speakers were: Dr. Warren Whitcomb, Southern States Field Station, Baton Rouge, La.; E. G. LeStourgeon; T. P. Robinson; Dr. Don O. Baird and Arthur Hodges, Huntsville, Texas. The officers elected were A. R. Graham, President; Arthur Hodges, Vice-President; Secretary-Treasurer, H. B. Parks. The next annual meeting will be held at College Station, July, 1936.—H. B. Parks, San Antonio, Texas.

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NEBRASKA, August 8.

Weather: July gave us thirty sunshiny days, one partly cloudy, and three fairly good rains which came at night. It also gave us some fairly hot days. Several days the temperature registered over 100 degrees with a maximum of 108. After twenty-five consecutive days of good rains in late May and June it did not seem possible it would become too dry again this year. Weather during July was favorable enough, but colonies generally were weak and very backward and slow in building up.

Honey Crop: The surplus will be small this year. Bees built up on the honey flow rather than before which will make a big difference in the total crop. Sweet clover, which usually begins to bloom about the first week in June, was about three weeks late in blooming and hot dry weather has cut its blooming period short by about two weeks. We usually secure a fall flow from smartweed. However, indications are not favorable for much of a flow from this source. The heat has caused this plant to bloom ahead of time and blossoms are drying up. Should the season be long and the weather favorable, we should secure some honey from alfalfa. Swarming fever has been a big problem to contend with this year. Even weak colonies have swarmed. And even with the honey flow at its height, strong colonies with plenty

of room, shade and young queens swarmed or attempted to swarm and refused to settle down to nectar gathering.

Beeswax: The demand for beeswax continues steady. Some beekeepers who have developed local markets, report receiving 30 cents per pound.

Miscellaneous: Our state suffered the devastation of three floods this spring, two of them striking the southwestern section of the state along the Republican River. The apiaries of many beekeepers were totally wiped out. Definite reports of the losses are not yet available.

Demand for honey, usually brisk at this time of the year, is very slow. The wheat crop predicted as a bumper crop, ran 10 to 12 bushels per acre—some few fields 25 to 30 bushels. Corn, late and backward, promises little or no crop. This reduction, coupled with too advanced living costs, simply leaves people without necessary funds and demand falls.

Our State Fair, to be held September 1 to 6, has added a honey cookery department to its premium lists. With this forward step as an example, we hope another year will show many more county fairs with such an addition.

Apiary inspection work, delayed by the wet weather, is progressing nicely and little disease is reported.—Benjamin Nielsen, Aurora, Nebraska.

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MINNESOTA, August 12.

Weather: July was characterized by unusually high temperatures and high humidity, ideal corn growing weather, and as a result Minnesota has in prospect one of the biggest corn crops on record.

Honey Crop: The basswood flow, judging from the reports that have come to the writer's attention, was a disappointment. There was an abundance of bloom but little nectar. During the first half of the month there were many cloudy days with considerable rain. This may partially account for the unusual amount of swarming. Beekeepers have reported a very high per cent of supersedure of queens. The honey crop prospects to date seem to be about normal, but below expectations in the early part of the season.

Miscellaneous: The joint meeting of the North Dakota Beekeepers' Association and the Minnesota Beekeepers' Association, held at Crookston, Minnesota, brought an attendance of considerably more than 100. This was held at the apiaries of the Sisters of St. Benedict. Mrs. Jensen thrilled her audience with an account of the work of the American Honey Institute. About 5000 pounds of honey was pledged for exhibit at the Minnesota State Fair, to be later sold and the proceeds contributed to the American Honey Institute.

The Nicollet County Beekeepers' Association will hold a picnic meeting at St. Peter on August 11. Professor A. G. Ruggles, State Entomologist, and Dr. M. H. Haydak, instructor in beekeeping at the University of Minnesota, will attend and take part on the program.—M. C. Tanquary, St. Paul, Minn.

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MANITOBA, August 1.

Honey Crop: At this date there is a prospect of a normal crop of honey in Manitoba. We had one good ten-day period when hives on scales increased in weight as much as one hundred pounds, but very hot weather set in with temperatures every day in the nineties and the increase dropped to three or four pounds a day. This hot weather was an advantage in one way, as it ripened the honey and it was capped very rapidly. There has been a fear that because of so much moisture this year much honey would go on the market in an unripe condition, but I do not expect much trouble as brokers are in no hurry to buy for immediate delivery.

Beeswax: All stocks of comb foundation are exhausted. All beeswax in the province either sold or made into foundation. This is perhaps a sign that we are getting a more than normal crop or it may mean that a few aggressive buyers of beeswax bought it up last fall and shipped it out of the country. Beeswax, however, is no longer a drug on the market.

Miscellaneous: Summer meetings have been well attended. There were 350 counted at our Provincial Meet. We had a sport event at that meeting that was lots of fun. We offered a ten dollar prize for the team of two from any local beekeepers' association that could nail and wire ten Langstroth frames to the satisfaction of two judges appointed by the Association. The rules called for at least two nails in the end bar at the top and one in each end of the bottom bar; six nails in all. Four wires to the frame. Any style of nailing and wiring device could be used.

We had four entries and the contestants worked as though their very lives depended on the results. The winners finished the ten frames in ten minutes flat. The contest provoked some lively discussion as to how frames should be made, assembled and wired, which was the real purpose for which it was intended.

The results prove that it was a happy suggestion that was given us last spring to charge a registration fee of a nickel a hive to raise revenue to pay for bee inspection. We now have four times as much money as last year and over 90 per cent of the beekeepers have registered. A charge of 50 cents to register any number, then a nickel a colony after that up to $15 maximum. This will bring us this year close to $5000.00, which, with the government grant, will supply the funds to cover the province. Already around 35,000 colonies have been examined and fourteen men are on the job. The few who have refused to register will be prosecuted, as we have the legal setup necessary.—L. T. Floyd, Winnipeg, Manitoba, Canada.

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KANSAS, August 1.

Weather: Since July 1 there has been no appreciable rain in Kansas, and the temperatures have been ranging around 100° or above. At the present time the soil is dry and large cracks have appeared in it. Again, trees are dying as they did last year in the drouth.

Honey Crop: The crop this year is primarily from white sweet clover, since during June there was much cool, rainy, cloudy weather, and there is very little white clover in the state at the present time, so the bees did not gather any white clover honey this year. About the middle of July the honey flow ceased, due to the fact that there were some large Tachinid flies working on the blooms which drove the bees from the field. These flies are the parasites of cut-worms. In all localities in eastern Kansas honey crop conditions from sweet clover were extremely favorable during the first half of July. For a week and a half the honey flow was cut off by the flies, then following the disappearance of the flies, the honey flow from sweet clover returned. At this time the honey in northeastern Kansas had picked up and has been doing fine since about July 21. One beekeeper in northeastern Kansas has an average of about 100 pounds surplus per colony. Others have slightly less than this, and the crop on the average in the eastern part of Kansas will be slightly less than normal. In north central Kansas, the beekeepers are expecting a honey flow from smartweed if it rains within a week.

Miscellaneous: The Southeast Kansas Beekeepers' Association held their picnic meeting at the farm of E. L. Yount, three miles north of Chanute on July 21. One of the prominent speakers at this meeting was the Secretary of the Kansas Board of Agriculture, J. C. Mohler. The Northern Kansas Honey Marketing Association held their annual meeting in Highland on July 26. The Kansas State Beekeepers' Association plans to hold its meeting on August 11 in Topeka. At this same time the Federation of Kansas Beekeepers' Associations also plan their annual meeting. The Arkansas Valley Beekeepers' Association have set the date of August 17, for its annual picnic meeting in the Wichita City park in Wichita.

In September, Kansas has two state fairs at which beekeepers annually exhibit bees and honey. The Kansas Free Fair is from September 7 to 13, at Topeka, Kansas. The Kansas State Fair is September 14 to 20, at Hutchinson. The bee and honey exhibits at both of these fairs should be much better than they have been for the last two years, since honey crop conditions have improved.

Many beekeepers this year are complaining about the lack of apiary inspection. Many who have had inspection of their apiaries annually are disappointed this year in not having an inspector visit them. Some conditions intervened this year to prevent extensive apiary inspection with the limited amount of funds available for the work. Weather conditions during the latter part of May and first half of June were such that inspectors could not work in the fields, or floods cut off the avenues of transportation.

It is hoped that beekeepers will try to conform to the new standardized containers for marketing extracted honey. Various odd sizes of containers have been eliminated from the schedule of marketable containers. This will simplify the practice of marketing honey and also give a true weight package for a quantity container. In other words, a pint is a pint, and not something less than that amount, as in many instances in the past. —R. L. Parker, Manhattan, Kansas.

ALABAMA, August 9.

Weather: The weather in central Alabama has been unusually warm with plenty of rainfall in most locations.

Honey Flow: The honey flow has not been heavy this summer but bees have continued to store some surplus all the time so that all colonies will get plenty for winter stores with the exception of those colonies that have been shaken too heavily for packages. Such colonies do not have sufficient bees to gather winter stores and will require feeding to carry them through.

Miscellaneous: The demand for queens has been poor, but this has been the case for several years now. There are several reasons for this. The beekeeper who kills his colonies and replaces them with packages has no need for summer queens and many of the most progressive beekeepers who would ordinarily requeen every year are now killing and replacing with packages in the spring. Some beekeepers who have the time are rearing their own queens as a means of fighting the depression. There are so many more queen-breeders in business now than there were a few years ago that there is little hope of ever having a good demand for summer queens again.

In the recent shakeup of the A. A. A. the package shippers and queen-breeders were very much afraid that their Marketing Agreement would be lost but the act as finally passed contains the following provisions :

"Nothing contained in this Act shall (a) invalidate any marketing agreement or license in existence on the date of the enactment hereof, or any provision thereof, either before or after the enactment of this Act, or (b) impair any remedy provided for on the date of the enactment thereof for the enforcement of any such marketing agreement or license."

Under this provision the shippers hope to retain the present Marketing Agreement as it has proved beneficial to both shippers and buyers of package bees and queens.

Shippers are beginning to talk of prices for 1936 and the general opinion is that they will be slightly higher than this season as the expense of producing and shipping has increased at least 10 per cent over last season. No prices will be announced till they are passed upon at the next meeting of the Control Committee and approved by the A. A. A. authorities at Washington which will probably be around October 1.—J. M. Cutts, Montgomery, Alabama.

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GEORGIA, August 6.

Weather: No general rain as yet. Local showers occurring with dry and wet spots over the state. As a whole, the state is too dry for average crops, which should be around 70 pounds, but the average so far is only 35. Temperature averages about 70; better than for several years.

Honey Crop: Good quality. Greatest yielder is gallberry. Tulip-poplar in the Piedmont and mountain sections gave only a light yield. Sourwood in the mountainous regions gave only a light yield. Principal reason of the shortage is due mostly to dry weather. Consequently local honey has not been so plentiful in our consuming centers. The demand and prices are better. Extracted, 8 cents; chunk, 9 cents. Very little section honey produced in the state.

Honey Flow: Bees are almost in a swarming condition with Mexican clover out in bloom, which will continue until frost. Bees working freely in the supers. Comb building almost as good as during the spring flow. Much increase is being made and general requeening is now being done. General apiary work under sway, which is unusual. Summer and fall honey flow rapidly on the increase because of new sources of nectar and more general growth. Bees left in the swamp regions are storing some surplus from pepper bush.

Miscellaneous: Beekeeping is undergoing a great change throughout the state, better stock installed. Queen rearing gave much consideration; shifting the bees about into more favorable locations. All the honey above the brood nest was removed before the bees were carried away from their spring locations. Now, they are making their winter stores as well as some surplus in their summer stands out in the farming areas. Owing to a long cycle of poor seasons the commercial beekeepers about over our state have been forced to this, bringing about an entirely different way to keep bees. "Make it in spite of bad seasons," is their slogan.—J. J. Wilder, Waycross, Ga.

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WESTERN OHIO, August 10.

Weather: This spring the weather was

very unfavorable for the bees to build up to normal strength. During early spring it was cold and cloudy nearly every day, so the bees were able to gather but little nectar from fruit bloom and dandelion, which is very necessary to lay the foundation for a successful honey crop. Colonies that were fairly strong gathered a fair crop.

Honey Crop: In making a complete survey of our 22 apiaries we find various conditions. Seven of our yards have stored perhaps an average of 100 pounds surplus, while the balance of the yards have from 25 to 50 pounds besides their food chambers, which contain about 55 pounds. Most of the honey this season came from yellow sweet clover. There was but little alsike and white clover, the drouth for the last three years having been too severe for these plants. However, the abundant rainfall this spring and summer was very favorable for the new seeding of alsike and sweet clover, which has never looked better. In fact, alsike is in full bloom in the stubble fields—a wonderful sight for the beekeepers, and a promise for the coming season of 1936.

Miscellaneous: We are now very busy requeening our bees. This was very much neglected during the past season, which resulted in quite a large number of colonies having failing queens. This, together with unfavorable spring weather, is perhaps one cause of the short crop. This season with a light crop, every beekeeper should carefully check up on his bees and requeen every colony that has an old or failing queen.

The Tri-County Beekeepers' Association had a meeting at the home of R. J. Porter. About 30 members were present. The Tri-County Beekeepers' Association was organized in 1915 by Mr. Sechrist, and has been a live organization ever since. At the present time there are about 40 members with new members coming in at nearly every meeting.

All in all the outlook for beekeeping in northwestern Ohio looks very favorable. —Fred Leininger, Delphos, Ohio.

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WESTERN NEW YORK, August 11.

Weather: New York has had all kinds of weather so far this year. Most sections have had sufficient rainfall. Bad floods in some parts of the state swept away parts of apiaries and in some instances entire apiaries.

The honey flow in this part of the state has been very erratic. We have had a few days of heavy flow followed by several lean days. Much swarming has been prevalent under these conditions.

Honey Crop: The crop in western and central New York is very spotted and light, probably not over 40 or 50 pounds per colony average. The crop in northern and eastern New York is much better, according to reports.

In our own yards colonies that did not have to be treated for swarming have done much better than those that had to be manipulated to prevent it. The surplus honey seems to be practically all alsike. Basswood seems not to have yielded at all, and sweet clover and alfalfa very little.

Miscellaneous: At the time peas were dusted for aphis, millions of bees died, depleting the hives to a serious extent. In large yards the ground was covered with dead and dying bees, which in a few days resulted in a stench. We lost the working force of bees from about 500 colonies. Two neighbors, who started beekeeping last spring with 12 colonies, asked me to go over to see what was the matter with their bees. I found them practically destroyed, ten of the 12 having had their queens killed and all the colonies weakened almost to ruination. Our chief inspector took a sample of dead bees from one of our yards for analysis but as yet we have had no report.

Conditions for a fall flow are fair. Weather conditions up to date (August 11) have been unfavorable for nectar secretion from buckwheat and other August sources.

Both the western New York picnic at Sheridan Park, Buffalo, on August 3, and the state picnic at Cayuga State Park, near Seneca Falls, August 10, were well attended and a fine time was enjoyed by all. Rain marred the day at Cayuga somewhat, but no one seemed to care. The program held inside went off in fine shape.—H. M. Myers, Ransomville, N. Y.

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ONTARIO, August 10.

Weather: The tale is now told in most Ontario localities insofar as the light honey crop is concerned. When I sent notes a month ago it looked then as if we would have a bumper crop. For some reason the flow gradually dwindled after July 15. However, a crop of 100 pounds per colony was secured. A lot of honey is left in su-

pers to go with buckwheat, as the latter began to yield earlier than usual and it was simply impossible to get the white honey all off without taking it before it was properly sealed. However, the difference in price between white and dark honey is not so very much now, so why worry? For the past two weeks the country within 20 miles or more of Toronto in all directions, has been dry and very warm. Unless we get rain soon the yield from buckwheat will be light as this plant secretes little nectar in our locality unless there is plenty of moisture with the hot weather.

Honey Crop: From reports so far received, I would say that the crop in Ontario as a whole is fully up to, if not above, the average. Colonies generally were very uneven in strength at the opening of the flow with many queens temporarily not at their best. This caused hundreds of colonies to attempt to supersede their queens and while this condition was righted later in the season, it reduced the crop considerably.

Local sales of honey are about as usual, but some distress selling to large departmental stores and special sales that follow such transactions are sure to affect retail prices. I learned only yesterday that one large firm had bought 100 cases of fives at the lowest figure that has come to my notice. The firm at once advertised a special sale of honey at a price much lower than we have been getting from the trade. It is rather hard to have competition like this, but I know of nothing that can be done to remedy the situation. The old law of supply and demand may eventually solve the problem.

Miscellaneous: That tastes differ, is a well accepted fact and we have a very pointed illustration of this truth in the way people choose honey to their liking. We have tried many methods of handling cappings and we are now back to melting the well-drained cappings in a melter of the usual type and then keeping this honey that is drained from the vat, separate. To me this honey has a cooked taste and a decided propolis flavor, and it burns my throat if I taste it. But many people that can afford to buy the best honey, simply rave over the quality of this cooked honey and it is sold as fast as it accumulates from the melter. If present slow market continues in a wholesale way, I think we had better run all our nice honey through the melter, throw in some wax and a bit of debris to change the flavor and then put on an advertising campaign to boost a new product.

In my notes for August referring to the proposed marketing scheme, I said that "I understand that the great majority of the beekeepers are in favor of the scheme." My attention has been called to this statement and I can only say that what I had in mind was the verdict of those who attended the different meetings held over the Province when this measure was discussed and voted upon. As to what the majority of the producers think of this scheme I have no way of finding out. There are supposed to be about 7000 beekeepers in the Province, and 500 would be a generous estimate of the average attendance at the meetings. My latest advice in the matter is that the petition has been handed to the Minister of Agriculture, and that his decision is expected at any time now.

Prospects for next year were never better than at present, as fields where the grain is cut show a rank growth of all kinds of clover. So never mind if markets are bad this year, prospects are good for a bumper crop next season.—J. L. Byer, Markham, Ontario.

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The common astor, which blossoms in September in the northern tier of states.

Just News

EDITORS

The program for National Honey Week, November 10 to 16, may be obtained by writing American Honey Institute, Madison, Wisconsin.

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The per capita consumption of honey per year in the Mount St. Benedict Academy at Crookston, Minn., has increased from less than a pound per person six years ago, to about 70 pounds per person at the present time.

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Wabash Valley Round-up of Illinois and Indiana beekeepers will be held at Newport, Indiana, on Saturday, September 14, 1935. The program will consist of practical talks by outstanding beekeepers, also demonstrations of putting up sections, removing honey with carbolic acid, also extracting honey.

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The pure food bill, sponsored by the President and in which all beekeepers are interested, has passed the Senate. While it has not yet passed the House it will come up automatically at the next session of Congress and be taken up where the previous Congress left it. Beekeepers should see or write to their members in the House and ask for their support. This bill if enacted, will plug up some of the leaks in the present pure food law of 1906.

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E. S. Prevost, or familiarly known to his friends and the beekeepers of South Carolina as "Ned," is now back at his post as special bee extension specialist at Clemson Agricultural College, Clemson, South Carolina. He will now be able to give full time, as before, to the beekeeping interests of his state. He is not only likable and capable, but he thoroughly knows the whole subject of bee culture, and like another good man, Mr. C. L. Sams of North Carolina, will put beekeeping back on the map for South Carolina.

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A new law to protect beekeepers and to promise honey production will shortly be published by the government of the state of Mecklenburg, Germany. The authorities have already decreed that during the next few weeks all beehives belonging to Mecklenburg beekeepers will be examined by special squads to determine whether any pests exist. In case any are found, the necessary steps will be taken promptly to eradicate them. Now every beekeeper has to report any suspicion of pest in his hives to the authorities who, in case they are forced to destroy the hives, will compensate the keeper for the damage suffered.

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Possible variation which exists among various strains of bees in their disease resistance is being tested in a co-operative project supervised by Frank C. Pellett, at Atlantic, Iowa. Honey producers are invited to visit Mr. Pellett to become familiar with this work, the nature of which has aroused a great deal of popular discussion. It is hoped that results will be obtained this season which will indicate the possible trend that may have an important bearing on future work. This work is being carried on co-operatively by Dadant & Sons, the Iowa Agricultural Experiment Station and the Iowa State College Extension Service.

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The National Convention of American Honey Producers' League and American Honey Institute will be held at the Statler Hotel in Detroit, on October 7, 8, 9, and 10. October 7 will be exhibits and national honey cookery contest day, with emphasis being placed on an effort to get everyone acquainted, and the judging of the contests out of the way the first day. October 8 will be Institute Day. October 9 will be League Day, while October 10 will be devoted to tours to points of interest in Detroit, and, if desired, there will be other trips arranged to the various commercial beekeepers of the state nearby. The Statler Hotel has made every effort to provide full accommodations for the convention, and all beekeepers throughout the state are taking hold of the idea of being in on one of the best meetings ever held.

Heads of Grain from Different Fields

Re "Seeing is Believing"

Referring to page 295, May, 1935, this sounds very nice in theory, but hardly true. I rather think that Mr. Miller had these particular boxes placed with a decided slope towards the entrance. Mr. Miller might try further experiments: (a) Give the boxes a decided lean toward one side; (b) this time with a strong diagonal dip towards one corner. As bees commence to build the comb in box hives from the highest point, I venture that Mr. Miller will find (a) comb built parallel with the sides, (b) diagonal combs. In New South Wales we are not allowed box hives. All bees must be in frame hives. If any reader from California or Oregon will send me seeds of honey-producing trees and plants I will send them seeds of various eucalyptus and acacias.—C. B. Scott, Whitton, Australia.

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Grading

The state of Oregon with its State Agricultural Act compels all individuals or firms manufacturing, or making, or selling butter made from the cream produced from cows, to be graded and branded as State of Oregon A, B, or C Grade. When this measure was proposed it was thought by the majority of those in the business it would be detrimental to the farmers and the creameries, but the result after one year's operating gave figures showing there was more butter eaten last year in the state of Oregon than in any previous year. A number of other states are considering passing a law of like character. I wonder if our honey was graded in a like manner if the same result would not follow in its wake; if the consumer would learn the value of these grades and could be sure of them when they saw the honey so graded and branded. We all know the value of a trade name and a brand. We have goods sold by name only from one end of the United States to the other. We know we can depend on the goods being as like as two peas with what we have before purchased. With but very few exceptions, this can not be said of honey. It is well known that honey as a product is much more difficult to grade than butter in which there are few possible grading rules. However, we have had several demonstrations in the brand or label selling of honey over the United States, which show something could be accomplished along this line.—Penn G. Snyder, Dayton, Ohio.

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An Ideal Bee Waterer

After losing many, many bees every day in a bird bath in my back yard, I made an ideal watering place by taking a galvanized iron pan, filling it level with crushed stone. I knocked the porcelain out of a common jar top, punched five holes in it somewhat smaller than a lead pencil, inverted my jar over the crushed stone and found that I had made provision for water that my bees liked so well that they deserted the bird bath entirely, although I placed the new fountain within three feet of the bath. I place the jar so that the water-level is somewhat below the level of the stone. Unless one has seen it tried out, it is surprising how the bees eagerly stick their heads and tongues into the cracks between the rocks and it seems that the smaller the crack, the more eagerly they go for it. This is the least expensive arrangement I know of as any kind of pan can be used, the crushed rock costing nothing, and an ordinary fruit jar used for the fountain. Not a single bee can drown, of course.—H. O. Kirby, Louisville, Kentucky.

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Beekeeping 348 Years Ago

That is the story contained in a small but unique book entitled "Bienbuck," which has found its way to the Agricultural Library, University of Wisconsin, a part of the Miller Memorial Library. This book had its origin in 1682. In that year a German, whose name is unknown, became interested in bees. Too poor to buy any books on the subject, he set to the task of recopying a book, written in 1586, on beekeeping. Little did this poor German realize that he had done an exceptional job in the copying of the book. Although the pages are yellowed and slightly worm-eaten, the writing, done in beautiful German script, is still clearly visible

on the hand-made paper. The binding and backing, built up by the use of printed sheets bearing the Gutenberg type, have well withstood the test of time for the book is till intact. Coming down through the years this book is now a prize possession, not only because it is old and unique but also because there is no other copy of the original book, printed in 1586, to be found anywhere else in the world.—Doris Clark, Madison, Wisconsin.

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Drones Return Four Miles

In the July issue, A. D. Wood states that after moving a colony one and a half miles, only drones returned, and asks whether they fly further than workers, or mark their location less well. The former appears to be at any rate partly the reason, as Cheshire, in his classical book on "Beekeeping," says he has known drones to return after being moved four miles.—W. T. Scott, Banchory, Scotland.

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That Little Boy of Mine

This is Ira Genoa Lambright, son of Mr. and Mrs. Ira Lambright of Goliad, Texas. This picture was taken in the apiary when the bees were at their best, working the horsemint honey flow, nevertheless young Ira has no fear of bee stings, although he has been stung several times.

Ira Genoa Lambright.

He wants to go to the yard and chew the honey out of bits of brace and waste comb. He likes to walk up after the lid is taken off the hive and look in at the bees and has no fear of them. The bees are from a very gentle race but that does not keep a gentle horse from kicking under certain conditions.

Ira Genoa is 22 months old and has eaten honey ever since he was a few months old and now he gets his honey when he wants it.—Ira Lambright, Goliad, Texas.

Protect Hives from Hive-Tool Wear

The use of the hive tool to pry the super loose from the hive has a tendency to mar the hive and the super, and in time will make a hole large enough for the bees to get through. The hive must then be repaired or replaced with a new one. This may be prevented by using a piece

Pieces of tin bent to fit edge of hive protect it from marks of the hive-tool.

of tin, bent to fit over the edge of the hive. Place one of these tins on each hive and super at the point where the hive tool is used. By inserting the hive tool between the two tins as shown in the photograph the hives and supers are protected from his hive-tool wear.—Clifford H. Kelty, Vinton, Iowa.

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After-Swarm Follows Prime Swarm

This spring I hived a prime swarm that had flown over two oak trees and a lemon tree to settle on the far side of a genesta hedge. In due time an after-swarm from the same colony settled in exactly the same spot. Can anyone tell me whether that was merely a coincidence or the usual thing when the bees are not interfered with? I do not recall such an occurrence in my childhood years as official swarm watcher in a large commercial apiary. But then our queens were all clipped and after-swarms discouraged. — Flora McIntyre, Pasadena, California.

Talks to Beginners

M. J. DEYELL

This has been rather a peculiar season throughout the country. In some regions, the honey crop has been somewhat disappointing, while in others a fair crop has been secured. We never know, however, until the close of the season what the honey crop will be.

Back in 1930, the first drouth year, the bees in our apiaries around Medina scarcely made a living during the summer and early fall. Up to the third week in August, no surplus was stored, and normal colonies did not have over eight or ten pounds of honey. About the middle of the month we had a soaking rain. On August 28 honey began to come from goldenrod. The flow continued for nearly a month, and during that time our scale hive gained 75 pounds. The brood chambers and food chambers were well filled and we secured a considerable amount of surplus honey from goldenrod and aster. And so, in regions that ordinarily give a fall honey flow, there is still a chance to secure some surplus honey.

Bees Begin to Prepare for Winter

When September comes bees begin to act somewhat listless. They seem to know that winter is coming. Queens do not lay so prolifically during September as they do earlier in the season. However, it is during this month that most of the young bees that survive the winter, are produced.

A Variety of Conditions

In some regions where sweet clover and alfalfa, constitute the major sources of nectar, the honey flow tapers off in early September and it is unnecessary to add more supers. In other regions, where buckwheat and goldenrod is plentiful, some surplus honey is stored during this month. In some regions of the East, goldenrod and aster constitute the crop of surplus honey when conditions are right for nectar secretion. In the northern United States and Canada, brood rearing is practically suspended by the end of this month, or early October. In the southern states it is continued several weeks longer. In the Mississippi Valley, heartsease, sometimes called smartweed, yields well in September. In some of these regions where surplus is secured, it is, of course, necessary to add supers in order to make room for incoming nectar and brood rearing. If supers are not added, swarming may occur, or, the brood chambers may be practically filled with honey with no space left for brood rearing. The restriction in brood rearing may reduce the population of the hive to such an extent that there may be a shortage of young bees to go into winter quarters.

In regions where there is practically no fall honey flow, bees do not waste their energy searching for nectar and consequently they do not wear themselves out. Furthermore, under these conditions, queens do not lay so prolifically. In regions where there is a fall honey flow, queens produce more brood and this results in a larger proportion of young bees. On the other hand, the older bees, usually called field bees, wear themselves out gathering nectar. There appears to be a balance running through nature and it is interesting to note how it applies to colonies of bees under various conditions.

Correcting Abnormal Conditions

The beginner should know the exact condition of all colonies. A thorough examination should be given colonies during this month before cold weather comes. This is a good time to correct the defects found in colonies. There are at least four things that the beginner should check at this time, namely, the queen, the size of the colony, the amount of honey in the hive, and the amount of comb space available for brood rearing.

While requeening is usually done earlier in the season, preferably during August, September is not too late for requeening. Usually a queen is more easily introduced late in the season than she is earlier in the season. If, therefore, an inferior queen is found, she should be replaced with a young prolific queen of good stock. Some times a good queen that has done good work early in the season may fail during the fall months. She may have been superseded and a young laying queen may be found during September. Queens reared under the supersedure impulse are usually of good quality.

The Importance of Ample Stores

Beginners who have been reading these

Talks are aware of the emphasis placed on ample stores for each colony at all times of the year. It is hoped that all beginners have adopted the food chamber method of supplying stores. In the event that food chambers are not being used, there may be, in some regions, a scarcity of honey in the hives at present. By rights, there should never be less than 15 pounds of honey at any time during the year. When there is less than this amount, combs of honey should be given, or sugar syrup should be fed. An easy way to make and feed sugar syrup is to mix two parts of granulated sugar with one part of water, either by weight or by measure, and stir until all of the granules are dissolved. Place the syrup in a 10-pound friction-top pail, the cover of the pail being perforated with about two dozen holes, made by a small nail. The pail of syrup should be inverted over the hole in the inner cover and the pail covered with an empty super, the hive cover resting on the top of the empty super. This puts the feed exactly where it is needed.

Importance of Strong Colonies

It is a little difficult for a beginner to know how large a colony should be during this month. A colony that has brood in five or six combs during September is likely to be strong enough in bees to survive the winter if other conditions for successful wintering are present. A colony with brood in eight combs during the first week in September is a good colony. Such a colony is likely to winter successfully provided the other factors essential for wintering are present.

Uniting Weak Colonies

Some beginners attempt to divide strong colonies in the fall. This is a mistake. Divided colonies are likely to be lost during the winter. It is, therefore, preferable to keep strong colonies intact.

It is difficult for some beekeepers to recognize the difference between a hive containing some bees and a hive containing a real colony of bees. It is safe to say that a colony having brood in only two or three combs in September is not strong enough to winter successfully. In some instances, under-strength colonies are wintered in bee cellars. Such colonies can be wintered more successfully in cellars than they can out of doors. Even though colonies are wintered successfully, they are a liability in the spring because they may not build up normally without being strengthened by package bees. On the other hand, populous colonies build up rapidly and require but little if any attention in the spring.

Weak colonies should be united in the fall. The uniting can be done by the newspaper plan—that is, by removing the cover of the stronger colony, placing a newspaper over the top of the frames, first punching a few small holes through the paper with a pencil, then placing the hive containing the weaker colony, without bottom-board, directly on top of the newspaper. The bees will gnaw away the paper and unite readily. If the queens are equally good the job of killing one queen may be left to the bees. If, however, one of the queens is old or otherwise undesirable, she should be killed before the two colonies are united. The earlier in September weak colonies are united, the better. Usually colonies united late in the fall do not become well established before cold weather sets in and may not winter well.

Modernistic sign, gaily colored, which is sure to be seen by passing motorists.

Laying Workers May Develop

Occasionally a laying worker colony is found during September. This condition is brought about by a colony becoming hopelessly queenless. By this we mean that there are no eggs or larvae from which to rear a queen. Under such conditions a few of the worker bees in the colony will start laying eggs. The eggs, being unfertile, will, of course, develop into drones. A case of laying workers can easily be detected because the cappings of

(Continued on page 572.)

Gleaned by Asking

THE EDITORS

Honey Souring in Jars

Question.—I have a few hives of bees and have had trouble with my strained honey. It sours after being in the bottles or jars awhile. Can you tell me the cause and how to overcome it?—Edwin Sickler, Pennsylvania.

Answer.—The souring of your honey in bottles is doubtless due to your taking it off the hives before it is fully ripened. Honey should not be extracted unless the combs are at least three-quarters capped or sealed over. If the honey is extracted before the combs are fairly well capped it will be, in most cases, too thin and will sour later on. This year, due to the abundant rains and excessive moisture in the atmosphere, it seems difficult for bees to properly cure the honey in the combs. During dry seasons honey is cured or ripened by the bees quite readily.

Sourwood Fails to Secrete Nectar

Question.—What causes the failure of the sourwood tree to secrete nectar? It has been my experience over an area of 150 miles, where one-half of this area has experienced a drouth and the other half a normal or excessive rainfall, that in neither location was there enough nectar secreted for the bees to work the blossoms. —S. L. Hurt, Georgia.

Answer.—We are unable to give the real reason why sourwood should fail to yield nectar under exactly opposite conditions—too wet in one case and too dry in the other. Possibly the extremes, "too wet or too dry," might be the explanation. Nature has queer ways of doing things. Sometimes when the conditions seem to be entirely favorable there will be little nectar in the blossoms and at other times when conditions appear to be unfavorable there will be a large yield of honey. This is also true of the clovers, basswoods, and other honey plants.

Using Oil of Anise for Bee Hunting

Question.—I have tried time and again to find bee trees with oil of anise, but have had no success. I pour the oil on a comb of honey and put it in an open place but have failed to get any bees. What is my trouble?—Merle Williams, Pennsylvania.

Answer.—Hunting bee trees should be attempted only during a dearth of nectar at a time when bees are inclined to rob. During a good honey flow, bees would not pay any attention to combs of honey exposed outdoors. Instead of using combs containing honey you had better use fresh extracted honey diluted with warm water, then add about two drops of oil of anise to four ounces of honey. The objection to using honey not diluted is that it is so heavy that it retards the flight of the bees. For the whole discussion of this question and how to carry on bee hunting we refer you to the article under that head in the A B C and X Y Z of Bee Culture.

Using Linseed Oil Barrel for Honey

Question.—I have a linseed oil barrel which I want to use for storing honey. Would it be all right for this purpose if all the refuse was burnt out and then painted with aluminum paint. Would this in any way taint the honey? —I. W. Westlund, Minnesota.

Answer.—It would be a very serious mistake to use second-hand linseed oil barrels for the storage of honey. Burning out the inside of the barrel would hardly be advisable. The linseed oil would be soaked all through the wood of the barrel and would give such a strong flavor to the honey that no one would buy it. It would be much more satisfactory to put your honey into regular standard 60-pound cans.

Using Cyanogas to Kill Bees

Question.—I have one weak colony of bees that has been reduced in strength because of laying workers. How would you suggest that I kill the bees? I do not wish to unite these bees with another colony.—W. A. Hill, Iowa.

Answer.—We suggest that you purchase a can of Cyanogas at your drug store to have on hand for the purpose of killing weak or diseased bees. Simply pour a tablespoonful of this material on to a paper and slip into the entrance of the hive. In less than half a minute all of the bees will be dead. This appears to be a humane method of disposing of the bees. You had better read carefully the directions for using the Cyanogas before applying it.

Dividing Strong Colonies

Question.—I have several two-story hives of bees. I wish either now or in the spring to make increase and reduce to one story. Do you advise dividing brood and stores now or waiting until spring? Of course, I would supply a new queen to each queenless division. This is practically the end of the honey flow.—F. B. Lambert, West Virginia.

Answer.—We suggest that you wait until spring to divide your colonies. If you divide now, the divisions might not build up sufficently strong in bees to winter successfully. Furthermore, it would require more honey for stores to winter two single-story colonies than it would to winter one double-story colony. You can di-

vide your strong double-story colonies next spring at the beginning of the fruit bloom honey flow. You can divide the bees, brood, and combs of honey, giving each queenless division a young laying queen. If you manage these divided colonies properly, you should build them up to normal colonies in time to secure a good crop of honey. In this way you can practically double your honey crop at a very small expense.

Feeding to Stimulate Fall Brood Rearing

Question.—At present, my colonies do not have much brood and I am wondering if it would pay to feed sugar syrup to my bees in order to stimulate brood rearing this fall.—J. L. Babcock, Indiana.

Answer.—As a rule, colonies that are well supplied with honey and have young queens do not need to be fed in the fall to encourage brood rearing. If your colonies are short on stores and if they are below normal strength, it would do no harm to feed sugar syrup. For warm weather feeding, you can use the Boardman entrance feeder that takes a Mason jar with perforated cap. Another method is to use a five or ten-pound friction-top pail, having the lid of the pail punched or perforated with about a dozen small holes made by a three-penny nail. The pail of syrup should be inverted over the hole in the inner cover. An empty super is placed over the inner cover and under the outer cover, to protect the pail of syrup while the bees are taking it. The sugar syrup should be made of two parts of sugar to one part of water, either by weight or by measure. To get away from having to feed bees sugar syrup you should use a food-chamber hive, which is a two-story hive, the upper story consisting of a shallow or a deep extracting super which should be well filled with honey in the fall. This insures an abundance of stores at all times of the year, and will result in populous colonies of bees.

Storing Extracting Combs

Question.—What is the best method to keep extracting combs during the late summer and early fall months, after the honey has been extracted, so that the bee moths may not destroy the combs?—J. W. Peterson, Kansas.

Answer.—One way to prevent damage from the wax moth is to pile supers containing extracting combs over strong colonies. One strong colony can take care of five or six supers of combs. It is customary to place the supers on the inner cover, with the block that ordinarily covers the hole in the center of the cover removed, so that the bees may pass up through this hole and occupy the combs. When cold weather approaches, the supers can be removed and stored in wintering quarters, being sure to make them bee proof, as well as mouse proof. If the combs are stored in the honey house early in the fall, as soon as they are taken from the extractor, the supers containing them should be piled in tight piles so that they can be readily fumigated. To fumigate a pile of supers place a shallow pan on top of the frames of the top super, set an empty super on top of the pile, pour into the pan one ounce of carbon bisulphide. The fumes being heavier than the air, will sink down through the combs and destroy the wax moth larvae. About two weeks later, it may be necessary to fumigate them a second time in order to kill the wax-moth larvae that may have developed from eggs which were not destroyed during the first treatment.

Fumigating Comb Honey

Question.—Please give me definite instructions on how to fumigate comb honey.—James A. Butcher, Indiana.

Answer.—Comb honey should always be stored in a dry atmosphere. In order to prevent the honey from being damaged by wax moth, it is well to leave the honey in supers for about ten days after taking from the hive, then the supers may be piled up in a tight pile and the honey fumigated with carbon bisulphide, which can be had at drug stores. To fumigate, place the shallow pan on top of the super, place an empty super over it, then pour one ounce of carbon bisulphide into the pan if there are six comb-honey supers in the pile. For any other number a proportionate amount should be used. The pile of supers should then be covered to help confine the fumes. After a few hours supers may be re-piled in order to let the fumes of carbon bisulphide escape. As a rule, one fumigation is sufficient, if applied about ten days after the honey is taken from the hives.

What to Do With Granulated Combs of Honey

Question.—I have about 20 standard brood combs that are almost full of granulated honey. How can I use these combs to advantage, or, how can I get the honey out of the combs?—Wilbur Jones, Maine.

Answer.—We suggest that you give each strong colony of bees two or three of these combs after settled warm weather comes. If you put these combs in the brood chambers of your hives, near the walls of the hive, the bees will use this honey gradually. The warm weather, together with the temperature of the brood

(Continued on page 568.)

BUY AND SELL HERE

CLASSIFIED ADS

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate—7 cents per counted word each insertion. Copy should be in the 15th of month preceding.

HONEY FOR SALE

The reliability of honey sellers is not guaranteed, although strict references are required.

NORTHERN MICHIGAN clover in new 60's. C. J. Freeman, Mesick, Mich.

EXTRA light amber clover extracted, 6½c lb. A. J. Wilson, Hammond, N. Y.

NEW clover comb, well filled, $3.00 case. Clarence Engle, Kearneyville, W. Va.

NEW crop clover honey. Write for quotation before buying. Edw. Klein, Gurnee, Ill.

BUCKWHEAT in sixties, 6½c lb. Sample, 20c coin. Otto Hurd, Phalanx Station, Ohio.

FINEST clover honey, new sixties, case or ton lots. I. R. VanDevier, Medina, Ohio.

CHOICE new crop white clover honey in new 60-lb. cans. Noah Bordner, Holgate, Ohio.

MICHIGAN finest clover honey, case, $8.00. Sample, 10c. Abel Totems, Owosso, Mich.

TUPELO HONEY—New 60-lb. cans, 8c per lb. Anthony Bros. Honey Co., Apalachicola, Fla.

EXTRA nice clover honey in new 60's, state quantity. Woodward Apiaries, Clarksville, N. Y.

FINEST quality clover extracted honey. New cans, $8.00 per case, 120 lbs. net. Sample, 10c. W. J. Manley, Sandusky, Mich.

FOR SALE—Northern Michigan white honey in 120-lb. cases. Ralph Lenosky, East Jordan, Mich.

FOR SALE—New crop clover honey in 60-lb. cans. Write for prices. Geo. M. Sowarby, Cato, N. Y.

FOR SALE—White clover comb, buckwheat comb about Sept. 1. Noel J. Loucks, Springboro, Pa.

FOR SALE—White clover honey in new cans and cases. Carlot or less. Walter Rink, Port Hope, Mich.

WHITE clover honey. Single sixties, 7c; 4 cans, 6¾c; 10 cans, 6½c. A. A. French & Son, Theresa, N. Y.

MICHIGAN'S FINEST clover honey. No disease. Overweight. New sixties, 7c. John McColl, Tecumseh, Mich.

A1 white clover extracted honey in new 60s, case or carload. Leonard S. Griggs, 711 Avon St., Flint, Mich.

NEW clover extracted, case of six 5-lb. pails, $3.00; 60-lb. tin, $5.00; also chunk comb honey. F. L. Barber, Lowville, N. Y.

CLOVER comb extracted and chunk honey is ready. Write for description and prices. H. E. Crowther, 128 South Street, Fostoria, Ohio.

HARRIS Quality clover extracted, new cans, by case or carload. Satisfaction since 1878. J. N. Harris, St. Louis, Michigan.

HOWDY'S HONEY—Comb and extracted, best quality Michigan clover honey. Also some light amber and capping melter extracted. Howard Potter, Ithaca, Michigan.

FOR SALE—Clover extracted. F. W. Lesser, Fayetteville, N. Y.

FANCY clover comb and extracted. Howard Grimble, Holcomb, N. Y.

CLOVER honey, 60's, 6½c to 7½c lb. C. J. Baldridge, Kendaia, N. Y.

CHOICE white clover honey in 60-lb. cans. J. F. Moore, Tiffin, Ohio.

MICHIGAN white extracted in 60's. M. H. Hunt & Son, Lansing, Mich.

CHOICE Michigan clover honey, new 60's. David Running, Filion, Mich.

FOR SALE—New comb and extracted. N. B. Querin & Son, Bellevue, Ohio.

NEW crop clover comb and extracted honey. Harry T. Gable, Romulus, N. Y.

FOR SALE—Extracted and comb honey. M. W. Cousineau, Moorhead, Minn.

CLOVER honey extracted, 7c per lb. Sample, 10c. K. A. Gallant, Cato, N. Y.

NEW crop clover extracted honey in new sixties. D. R. Townsend, Northstar, Mich.

WRITE me for prices and samples of honey. I can please you. Thos. S. Sherfick, Shoals, Ind.

CARLOAD or less fine white northern Michigan honey. George Jaquays, East Jordan, Mich.

MICHIGAN'S finest well ripened white honey in new 60's. Sample, 15c. Jay Cowing Jenison, Mich.

CLOVER honey, choice, ripened on bees. Satisfaction guaranteed. Case or quantity. J. Stahlman, Grover Hill, Ohio.

NEW crop white extracted honey ready in August. Sample and price on request. Satisfaction guaranteed. Harry C. Kirk, Armstrong, Iowa.

CLOVER honey from Cloverdale, Ohio's finest white clover extracted. Sample, 15c. Prices upon request. The Cloverdale Apiaries, Cloverdale, Ohio.

SWEET clover honey in 60's, 7c lb., F. O. B. in 10-case lots, or 7½c in less quantity. Shipped C. O. D. or cash with order. Clarence Deeter, R. F. D. No. 3, Greenville, Ohio.

FINEST New York State clover honey in new 60's, 5-lb. pails, and 2½-lb. cans; also buckwheat in same sizes. Large or small lots. Earl Rulison, Route 1, Amsterdam, N. Y.

NEW YORK State comb and extracted honey, buckwheat and clover, any quantity, all size packages. Five-pound pails my specialty. Edward T. Cary, Midland Ave. and Tallman St., Syracuse, N. Y.

FOR SALE—Well ripened white sweet clover honey. Don't let your customers be without honey. The stock we furnish will please them. Write today for prices. Colorado Honey Producers' Association, Denver, Colo.

STOLLER'S excellent quality extracted clover honey. Absolutely none finer. New sixties. Write Stoller Apiaries, Latty, Ohio.

FOR SALE—Comb and extracted honey. H. G. Quirin, Bellevue, Ohio.

FINE quality New York State extracted honey. Emery Horton, Holcomb, N. Y.

NEW crop clover comb and extracted, about July 10. C. B. Howard, Geneva, N. Y.

NEW YORK State clover extracted honey in new 60's, two per case. H. B. Gable, Romulus, N. Y.

NEW crop white clover honey, both comb and extracted, ready to ship. F. J. Smith, Castalia, Ohio.

CHOICE light honey, 7c per lb., in 60-lb. cans, F. O. B. Roaring Branch, Pa. David Conn. Sample, 15c.

FINE quality palmetto or mangrove honey in new sixties. Sample, 6c. Peter W. Sowinski, Fort Pierce, Florida.

FOR SALE—Extracted honey. Let us quote you price on a case or truckload. Any size container. The Hubbard Apiaries, Onsted, Mich.

OUR new crop of finest Michigan clover honey is now ready for the market. New cans and cases. Speak for your needs during the coming season. E. D. Townsend & Sons, Northstar, Michigan.

RASPBERRY HONEY—In 60-lb. cans, for $6.00 a can. In 10-lb. cans by mail, postpaid up to and including fourth zone, for $2.00 a can. Sample by mail, 20c. Elmer Hutchinson & Son, Lake City, Mich.

HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTE—We will not guarantee any honey buyer's financial responsibility and advise all beekeepers to sell for cash only, or on C. O. D. terms except when the buyer has thoroughly established his credit with the sellers.

WANTED—Light and amber honey. Riverside Apiaries, Russell, Illinois.

WANTED—Honey in carlots or less. Write Sherman Whitney, Puyallup, Washington.

WANTED—Comb and extracted honey. Mail sample, state quantity and price. Sherfick Farms, Shoals, Ind.

WANTED—Honey, all grades, amber and capping melter honey our specialty. Blue Ribbon Honey Co., Gurnee, Ill.

WANTED—Carlots of honey, state quantity, shipping point and price. Mail sample. Bryant & Cookinham, Inc., Los Angeles, Calif.

WANTED—Honey and beeswax. Beekeepers will find it to their advantage to communicate with us. Please send sample, state quantity available and prices. California Honey Company, Hamilton & Company, Agent, 108 W. Sixth St., Los Angeles, California.

WANTED—White amber, capping melter extracted honey, ten tons or less. Also No. 1 and fancy white comb, 500 cases or less, and white chunk honey, five tons or less. Quote extracted without wooden cases within 300 miles of Columbus, Central Ohio Apiaries, Millersport, Ohio.

FOR SALE

BEST bee-hunting outfit. Grover, Bistol, Vt.

LABELS—Write, stating size. Mail Order Press, Rt. 4, Riverside, Calif.

ELECTRICAL uncapping knives, $10.00 each; with thermostat, $14.00. Paul Krebs, 8000 Fulton Ave., Detroit, Mich.

FOR SALE—Root four-frame reversible power honey extractor, in good condition. Price $25.00. F. O. B. Owego, Clifford P. Dean, Owego, N. Y.

ROOT'S two-frame extractor. V. W. Binderup, Minden, Nebraska.

FOR SALE—200 60-lb. cans, 2 cans in case, 30c case for lot. Small lots, 35c case. Dr. G. T. Hayman, Doylestown, Pa.

FOR SALE—200 cases used 60-lb. cans, clean, good as new, 50c case of 2 cans. Old Dominion Health Foods Co., Lynchburg, Va.

STRAW BEE HIVES for roadside honey selling stands; English and landscape gardens; estates. Photos on request. G. Korn, Berrien Springs, Mich.

BEST quality bee supplies, attractive prices, prompt shipment. Illustrated catalog upon request. We take beeswax in trade for bee supplies. The Colorado Honey Producers' Assoc., Denver, Colo.

FOR SALE — Fine quality queen-mailing cages; Root quality bee supplies; both comb and extracted honey. Orders filled promptly. Write us or drive over M53, fifty miles north of Detroit. Hamilton Bee Supply Co., Almont, Mich.

FOR SALE—Nearly new eight-room house and all necessary outbuildings for carrying on package bee and queen business. Well located, good climate, good water, good roads. Sell with or without bees, or bee hive factory. Bargain. Terms to right parties. Box 8, Care Gleanings in Bee Culture, Medina, Ohio.

BEES AND QUEENS FOR SALE

LAST chance to requeen. Untested, 50c each. Dealers, 15% discount. J. M. Cutts & Sons, Rt. 1, Montgomery, Ala.

GOOD untested Caucasian queens for September delivery, 50c each. Lewis & Tillery Bee Co., Greenville, Ala.

FOR SALE—125 stands of bees, $3.00 each; guaranteed no disease. R. W. Baldwin, Route 4, Greencastle, Indiana.

CAUCASIAN bees and queens. Booked up for 1935, but accepting orders for 1936 delivery. Bolling Bee Co., Bolling, Ala.

BEST Mountain Gray Caucasians, select queens, 50c each. Package bees at code price. P. B. Skinner, Greenville, Ala.

115 COLONIES bees and supers. Bees guaranteed free from disease. Excellent location. Bargain for cash. S. B. Millis, Sabin, Minn.

THREE-BANDED Italian queens that produce good honey gatherers and are gentle to work with. Alamance Bee Company, Geo. E. Curtis, Mgr., Graham, N. C.

10 COLONIES Italian bees, in single-wall modern hives. Bees guaranteed free from disease. $5.00 cash per colony. J. H. Thesing, 679 Paige Ave. W., Barberton, Ohio.

NORTHERN-BRED old reliable Italian queens, bred for honey-getters, hardy, gentle bees, safe delivery and satisfaction guaranteed. Select untested, 75c; select tested, $1.50. Willie Groom, Gashland, Mo.

GOLDENS—These queens are pure Italians, line bred, for honey as well as color, good honey gatherers, very gentle to handle. Health certificate. Safe arrival. Satisfaction. Untested, 50c; tested, $1.00; select tested, $1.50. D. T. Gaster, Rt. 2, Randleman, N. C.

EXTRA YELLOW Italian queens that produce bees a little more yellow than the three-banded; more gentle and just as good workers. Untested, 50c each; tested, $1.00 each; select tested, $1.50 each. Health certificate and satisfaction. Hazel V. Bonkemeyer, Randleman, Rt. 2, N. C.

(Classified Advertisements continued on page 568.)

QUEENS

ITALIANS CAUCASIANS

Reared right and shipped so they will reach you in good condition. Give us a trial and see.

50c EACH

ANY NUMBER

Weaver Apiaries

NAVASOTA, TEXAS

Agents for Pinard Nailless Queen Cages.

HIGH GRADE ITALIAN QUEENS

Write for our free book, "About Bees," which is a treatise on Beekeeping for the beginner as well as the commercial Beekeeper.

JAY SMITH

ROUTE FIVE, VINCENNES, INDIANA

Time to Requeen

Requeen your colonies with Palmetto Quality Queens and be insured of strong colonies for next year's honey flow. Prices, 50c each. 42½c each to certified dealers. Three-band Italians, no disease, and you must be satisfied.

C. G. ELLISON, BELTON, SOUTH CAROLINA

DON'T FORGET

You haven't much time left to requeen your bees. MERRILL'S QUALITY QUEENS will help you make a bigger honey crop in 1936, if you will requeen with them now. More than 500,000 have been used. They must do good work or we could not have sold more than half a million of them.

ITALIANS ONLY. 100% SATISFACTION.

Select Untested, 50c. To Dealers, 42½c each.

MERRILL BEE COMPANY, BUCATUNNA, MISS.

Mississippi's Oldest Shippers.

Over 30 Designs

CATALOG FREE.

Honey Labels

Because of the big rush for these attractive honey labels, you should send your order as soon as possible.

THE A. I. ROOT COMPANY, MEDINA, OHIO.

Moore's Strain

Leather Colored Italian Queens
Superior Stock

50c Each

World-wide reputation for honey-gathering, hardiness, gentleness, etc., since 1879. Safe arrival and satisfaction guaranteed. Circular free.

J. P. Moore

MORGAN KENTUCKY

Swarming—Its Control and Prevention

by L. E. Snelgrove, M. A., M. A. B. Sc.

Including new and easy methods of prevention involving little labor, no caging of queen or destruction of cells—no interruption of laying or honey-gathering, immediate occupation of supers, annual requeening, increase or not as desired. Postpaid, $1.00.

SNELGROVE, Bleadon, Somerset, England.

HIGH CLASS JOB PRINTING.
THE A. I. ROOT CO., MEDINA, O.

QUEENS

50c EACH, GUARANTEED.
NO DISCOUNTS.

THE CROWVILLE APAIRIES
WINNSBORO, ROUTE 1, LOUISIANA.

Dependable Italian Queens

INSTANT SERVICE

Select Untested Queens.....50c

15% discount to dealers

CALIFORNIA APIARIES
J. E. Wing. Cottonwood, California.

BRIGHT ITALIAN QUEENS

Balance of season, 50c each, any number. If you requeen with Taylor queens this fall you will be delighted when you open up next spring. Our special breeding method gives you winter protection, reduces swarming. Write for our circular and learn how we do it. Our location is free of disease.

TAYLOR APIARIES, Luverne, Ala.

Gleanings in Bee Culture

1 YEAR—ONLY $1.00
2 Years, $1.50; 3 Years, $2.00.

Foreign, 1 Year, $1.25; 2 Years, $2.00;
3 Years, $2.75.

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FREE Beautiful Bon Bon Dish free with every subscription.

Why Subscribe?

"Gleanings in Bee Culture is a real bee magazine. I guess the reason I like it so well is because it has some consideration for the beginner. I have learned very much from it and would like to have the 'Talks to Beginners' lessons from the first of the year."—R. H., North Crolina.

•

"I consider your magazine an excellent thing for any beekeeper, whether backlot or commercial, to have and can recommend it enthusiastically."—C. H. A., Colorado.

•

"I have been a constant reader of Gleanings for several years and wouldn't be without it."—O. E. J., Rhode Island.

•

"When I don't get Gleanings in Bee Culture I don't get honey. The bees just won't work unless I read it. They seem to understand."—R. M. A., Tennessee.

GLEANED BY ASKING

(Continued from page 551.)

chamber will have a tendency to gradually liquefy granulated honey. By fall, the bees will have used up most of the honey and the combs will be used for brood rearing. In our opinion, this is one of the best methods of getting rid of granulated honey in combs.

Sweetness of Honey and Cane Sugar

Question.—What is the difference in sweetening power of honey and cane granulated sugar, pound for pound?—Dr. Mason, New Jersey.

Answer.—Honey contains two sugars, levulose and dextrose. The former is much sweeter than cane sugar and the latter is not so sweet but the combination of the two makes an invert sugar which is certainly sweeter than ordinary cane sugar. We refer you to our A B C and X Y Z of Bee Culture, where you will find the subject of honey discussed very fully under various sub-topic heads.

Queen Not Released

Question.—Why will the bees not let a queen out of the cage, when they are put in the cellar ready for wintering? I let the queen out of the cage and they have accepted her.—F. Sheill, Michigan.

Answer.—When bees go into the quiescent state for winter they apparently pay but little if any attention to the queen, which explains why the queen was not released from the cage. However, it does seem strange that the bees did not eat the candy out of the hole in the end of the cage if the cage was located within the cluster of bees.

Cellar Wintering vs. Outdoor Wintering

Question.—I have six colonies of bees and I am wondering whether I should winter them out-of-doors, giving them plenty of packing, or put them in my fruit cellar, which is dark and cool.—Robert White, Connecticut.

Answer.—Your climate is probably too warm to winter indoors successfully. Better winter outdoors. By supplying plenty of packing for each colony and by locating your apiary in a spot well protected from the prevailing winter winds you could winter your bees out of doors. However, if your fruit cellar is dark and you can maintain a temperature between 43 and 45 degrees Fahrenheit, you can move your six colonies into your fruit cellar about the last of November after the bees have had a good flight. They will then be in good condition to remain in the cellar until early April. Be sure to leave the entrances of the hives open during the winter and disturb the bees as little as possible.

CLASSIFIED ADVERTISEMENTS

(Continued from page 565.)

OUR Italian queens, guaranteed to satisfy Prompt shipment, 50c each. Citronelle Bee Co., Citronelle, Alabama.

CHOICE bright Italian queens that are a pleasure to work with and be proud to own. The stock has been bred and selected in the North the past 32 years for good winterers, hustlers, gentleness, and fine color; 75c each; dozen, $8.00; breeders, $6.00. Emil W. Gutekunst, Colden, N. Y.

WANTED—TO EXCHANGE

WANTED—Exchange printing for honey. Snapp Printing Co., Greeneville, Tenn.

MISCELLANEOUS

BEEGONE beats acid or escapes for removing honey. Dillon & Sons, Adrian, Michigan.

WANTED—300 or more colonies of bees to work on shares for 1936 season. G. K. Hutton, Gurnee, Ill.

WANTED—Four or six frame friction drive extractor, with 36-inch or larger diameter. Ray C. Wilcox, Odessa, N. Y.

PATENTS—C. J. WILLIAMSON
Attorney for The A. I. Root Co.
Munsey Bldg. Washington, D. C.

CARNIOLAN & AUSTRIAN QUEENS

Our queens are hardy, gentle, prolific, great honey-gatherers, builders of very white combs. Use mostly wax in place of propolis. No foulbrood here. No package bees.

Untested Queens, June 1 to Nov. 1, 50c.

A. M. MIDDLETON, FORT EDWARD, N. Y.

For Successful Wintering

Garon's Strain of Bright Italian Queens will quickly restore your colony strength after summer's ravages. 50c each. Discount to dealers.

GARON BEE COMPANY, DONALDSONVILLE, LOUISIANA

EDITORIAL

(Continued from page 548.)

with the Government requirements. If the honey is too thin it is liable to ferment so the question of water content, when it is difficult for the bees to ripen it, is important this season. A watery, thin honey, even if it does not ferment, is liable to hurt the market for next season, if it does not this season.

If the honey is too thin, what is the beekeeper to do about it? Such honey stored in open tanks in a room with a dry atmosphere will become thicker; but during this season when doors and windows in many localities swell from an excess of moisture, the honey would become thinner.

If one finds that his honey is beginning to ferment he should heat it immediately and seal while hot. If fermentation has gone too far, heating will not do much good. In that case sell to bakers who will use it if the quality and flavor is otherwise good. Be careful not to run the temperature above 160° F. It should then be cooled quickly.

How is a beekeeper to know when his honey is too thin to market? It has been customary to say that a well-ripened honey should run about 12 pounds to the gallon. Some beekeepers say this figure is too high for them to reach. This will be especially so this season.

Here is a fact well to bear in mind: A tank of honey may be thinner at the top than at the bottom. This is shown very clearly by the refractometer test and one can see the difference himself often by drawing a sample from the bottom of the tank and then one from the top. At exactly the same temperature a sample of the top honey will flow much more freely than honey from the bottom. This is precisely where seller and buyer get into an unpleasant controversy. The claim is made by the buyer that the whole shipment is not up to sample. There is bound to be complaints of this sort this season, so look out.

Some buyers are now using an instrument known as the Zeiss refractometer. It is usually used in the syrup, oil and preserve industry to test the solids and moisture content of various products. It gives a quick determination and when used under the right conditions of temperature and by one who knows how to use it, it gives very accurate results. The one used by Gleanings staff cost $234, and would probably be beyond the reach of the average beekeeper.

However, any one can make this test: Keep a test bottle of honey of known density (12 pounds to the gallon) of between 18 and 19 per cent of moisture, which is about right, and compare the fluidity of other samples with this at **exactly the same temperature.** If the air bubble rises and falls in the two samples when inverted with the same speed it may be inferred that the moisture content is the same. If there is a difference, a doubt is raised.

Any good honey of the right water content should show an air bubble at a temperature of around 75 F. that will rise **very slowly** when the bottle is inverted. Conversely, if the bubble rises in half the time it may be understood that the honey is not up to standard.

We of the Gleanings staff consider that any sample that shows a higher water content than 19 per cent is too thin, although it might pass the inspection of a government inspector. A reading of 21 per cent would be liable to ferment on standing.

We recently tested by the Zeiss refractometer a car of honey, the cases of which were divided into different groups, according to the moisture content. The table below shows the results:

25 cases not more than 18½% moisture.
96 cases not more than 19 % moisture.
74 cases not more than 19½% moisture.
34 cases not more than 20 % moisture.
71 cases not more than 21½ moisture.

The two last groups 20 and 20½ we would consider too thin for bottling. An equal number of cases of 18½ per cent and 21½ per cent honey may be averaged by heating and mixing together thoroughly. In the same way top honey and bottom honey of different densities can be brought to the same density by heat and thorough stirring.

QUEENS

LIGHT THREE-BAND ITALIANS.

Reared on a good steady honey flow, and mated in a three-frame nuclei. Pure mating and satisfaction guaranteed.

50c each. 15% discount to dealers.

W. O. Gibbs Co.

Box 81. BROOKFIELD, GA.

Where service is a fact, not a promise.

National Honey Week

Nov. 10 to 16, 1935

PURPOSES: Acquaint everyone with the merits of honey.

WHAT FOR: So every one may enjoy including Honey in their daily menu the year round.

WHO SHALL OBSERVE IT: Everyone is invited to.

WHAT IS TO BE DONE: The new National Honey Week program is just off the press! It gives **ALL** details. Free copy may be obtained from

American Honey Institute

Madison *Wisconsin*

(There's time left, too, to develop the Second National Honey Cookery Contest—rules, list of prizes and entry blanks free for the asking.)

((This page donated to American Honey Institute by Gleanings in Bee Culture.)

ITALIAN QUEENS
CARNIOLAN QUEENS
CAUCASIAN QUEENS

Reared in separate apiaries several miles apart.

Price, 50 CENTS each.

RONALD KIRK
Rockton, Pennsylvania

WINTER With HOWELL'S Queens and have strong colonies for 1936.
PURE THREE-BANDED ITALIANS
50 CENTS EACH
D. W. HOWELL, Shellman, Georgia

For Sale

PURE ITALIAN QUEENS
Nothing but the best. Bright yellow and three-bands. Also red clover, 50c each. You send for them, they go.
Graydon Bros., Rt. 2, Greenville, Ala.

A Good Rule to Go By

Buy your bees and queens from
ALABAMA APIARIES
MT. PLEASANT, ALA.
Queens, 50c.
Packages, $1.95 and $2.55.

Knight's

Dependable Queens

TREAT YOURSELF to THE BEST

Line-bred, Three-banded Leather-Colored Italians, Accredited and Certified by Alabama State Department of Agriculture.

They are extra large, producing large bees. All queens carefully reared and are the best that can be produced.

All queens guaranteed mated pure.

PRICE POST PAID Select (one grade), 50c, 15 per cent discount to dealers. No charge for clipping. No disease. Prompt shipments.

Jasper Knight, Hayneville, Alabama

McDonald Quality Queens

Bred from hardy northern breeders. Big, prolific, three-banded Italian Queens that are hustlers. Bees are gentle—the kind of bee that you like to handle. Every queen that is sent out is a selected queen. Write for prices.

L. H. McDONALD
RT. 1, BOX 1213, CERES, CALIFORNIA

(28 years' experience with Bees. Resistant to European F. B.)

Requeening Time, Now!

Requeening during late summer and fall is the foundation stone upon which to build your next year's hopes. You will want the very best queens for this job, and we guarantee ours to be the equal of any in the whole wide world.

Our summer honey flows from partridge pea, cotton, and other minor sources, are making conditions ideal for queen rearing. Demand for our queens has continued to be good thus far, and in anticipation of much requeening due to various causes, we will push our yards in order to rear the best possible queens for you, and be prepared to serve you promptly, whether the orders are large or small.

Our bees are hardy winterers, build up rapidly in spring; are active pollen carriers even on very cool days, and bring in the honey whenever any is available.

You can't go wrong in your choice of our queens for your requeening.

PRICES BALANCE OF SEASON

Select untested, 50c each. Select tested, $1.00 each. No charge for clipping. Don't forget the American Honey Institute; they need our united support.

JENSEN'S APIARIES, MACON, MISS., U. S. A.

TALKS TO BEGINNERS

(Continued from page 561.)

the brood project somewhat beyond normal worker brood. Such colonies dwindle in strength very quickly. It hardly ever pays to try to requeen a laying worker colony. It is preferable to unite such a colony with a queenright colony. Uniting can be done in the manner just described by placing the laying worker colony on top. The writer has had some experience in uniting laying worker colonies with queenright colonies late in the fall, by simply placing the laying worker colonies on top of the queenright colony without using the newspaper. No fighting between the bees occurred. If the uniting were done earlier in the season some bees might be killed.

The Importance of Pollen

Some years ago beekeepers seemed to think that an abundance of pollen in the brood chambers during the fall was detrimental to good wintering. Of late, it has been demonstrated that an abundance of pollen is a valuable asset to colonies during the winter. Quite early in the fall bees begin storing pollen in the bottom of cells, around the brood nest. Honey is stored over the pollen, which, by the way, is sealed hermetically by the bees. The pollen is thus protected from the air and is available for the bees the following spring, to be used in brood rearing as soon as the honey covering the pollen, is used up. Frequently there is a long wet cold spell in the spring when bees do not get out of the hives to collect pollen. This surplus pollen in the combs comes in handy at such a time. It enables bees to continue brood rearing during a rainy spell.

Do Not Shift Combs

When checking colonies in the fall it is a mistake to change the arrangement or position of combs in brood chambers. In some instances, it may be necessary to remove an undesirable comb, that is, a comb that contains a considerable amount of drone or stretched cells in order to replace this comb with a good comb consisting of worker cells. It is unwise to manipulate colonies too much during the fall months, or to switch combs about. Bees know better than beekeepers how to prepare their winter brood nest.

Removing Surplus Honey

In regions where surplus honey has been stored it should be removed from the hives as soon as the honey flow is over. The honey should be extracted as soon as it is off the hive, before cool weather sets in. In some instances, it is necessary to heat the room in which the extracting is done in order to get all of the honey out of the combs. Extracted honey is easier to produce in the fall than comb honey.

Watch for Disease

It is to be hoped that beginners reading these pages are not troubled with American foulbrood. It pays, however, to be constantly on the watch for it. During the last examination of the bees this month each comb should be examined closely. It is especially important that no

(Continued on page 573.)

EDWARDS STEEL SHINGLES

SAVE YOU MONEY

Protect your buildings from fire, lightning, wind and weather before advancing costs force next price raise.

Ask for Catalog 88. . . Send roof measurements.

THE EDWARDS MANUFACTURING CO.

933-983 Butler Street Cincinnati, Ohio

Thrifty Queens

Guaranteed to please.....50c each

Accredited and certified by the Alabama Dept. of Agriculture.

W. J. Forehand & Sons, Ft. Deposit, Ala.

Breeders since 1892.

Ready to Serve You

16 Consecutive Years' Experience Serving Beekeepers in United States and Canada.

Reliance Italian Queens

AT ALL TIMES. WE INVITE COMPARISON WITH ANY QUEENS PRODUCED.

TRADE AGREEMENT PRICES RUSH YOUR ORDER

IMMEDIATE SHIPMENT.

The Puett Company, Hahira, Georgia

"Where Satisfaction is a Certainty."

TALKS TO BEGINNERS

(Continued from page 572.)

colonies be allowed to go into winter quarters with even a slight trace of this disease. American foulbrood can be detected easily even by the beginner simply by examining the sealed brood. If the disease is present, an occasional cell may be found with a sunken perforated capping. When such a cell is found the capping should be torn away with a toothpick, or a small stick, to examine the contents of the cell. If the dead larvae or pupae has sunken down into a mass on the lower side of the cell, and has a characteristic brown coffee color, American foulbrood may be present. In the late stages of the disease, the remains of the dead larvae or pupae dry down in the dark-colored scales on the lower cell wall, where it may be seen by tipping the top of the comb toward the eyes, in a strong light. If American foulbrood is suspected, a piece of comb three or four inches square, containing some dead larvae, should be put into a tight wooden box and sent to the Bureau of Entomology, Washington, D. C., for examination. If disease is found to be present, directions for its elimination will be furnished free of charge.

Selling Honey During September

September is one of the best months for selling honey locally. Tourists will buy it at roadside stands. It seems that people buy honey more readily after the weather has turned cool. They think of honey in connection with hot cakes and biscuits. Beginners will find honey selling very interesting work. It affords an opportunity to develop salesmanship, also to come in contact with people in various walks of life. As a matter of fact, to many beginners selling honey is as interesting as producing it.

FACTORY TO YOU
KITSELMAN FENCE
Guaranteed highest quality at lowest prices. Copper-Bearing Steel, 99 92/100% *pure* zinc galvanized. *Horse-high, Bull-strong, Pig-tight* Farm Fence; Poultry and Lawn Fence, Steel Posts, Gates, Barb Wire, Paints, Roofing. WE PAY FREIGHT.
KITSELMAN BROTHERS
Box 21 *Muncie, Indiana.*

Choice Queens

From **HOLLOPETER'S** strain of Italians by return mail. With the fall honey flow now on and the peak of requeening past, we are making prompt shipment of the finest queens possible to produce. Hardy, prolific, great workers, not inclined to swarm, this strain of Italians has won the approval of beekeepers everywhere. Still time to place several of these queens in your apiary.

Choice untested queens, each, 60c; two or more, 50c each. Tested queens, $1.00 each.
Address—

White Pine Bee Farms, Rockton, Pa.
Gleanings advertisers from 1911.

"BETTER BRED ITALIAN QUEENS"

—ANY QUANTITY, 50c—

Orders filled the same day as received. September a good month to requeen. Send us your orders and be among our many satisfied customers. Dealers wanted in every locality, 42½c. Foundation and bee supplies, good price. Write for prices.

CALVERT APIARIES **CALVERT, ALABAMA**

Sample, postpaid, 25c.

Look at This Price!

LITHOGRAPHED HONEY PAIL

10-LB. SIZE ONLY, $11.70 PER 100.

(Not sold in lots less than 100.)
LIMITED QUANTITY
PRICE F. O. B., MEDINA, OHIO.

THE A. I. ROOT CO., MEDINA, OHIO

Package Colonies, Ohio, Summer, 1934.

• • •

We offer the same good quality for 1935.

YOUNG, PURE, THREE-BANDED ITALIAN BEES

Select young laying queens. Gentle, vigorous, honey-producing stock.

PRICES JUNE 1 TO OCT. 31:

2-lb. pkgs. with queens.....$1.95 each
3-lb. pkgs. with queens..... 2.55 each
Select 1935 laying queens..... .50 each

Accredited and certified by the Alabama Dept. of Agriculture, and guaranteed to please you.

H. C. SHORT
FITZPATRICK, ALA.

Mott's Northern-bred Italians

Non-swarmers. Eliminates that swarm nuisance. Purely mated, or will exchange.

August and September—75c each; 25, 70c each; 50, 65c each; 100, 60c each.

Tested, fair to good breeders, $2.00, $3.00, $5.00.

Satisfaction guaranteed. See list.

E. B. MOTT & SON, Glenwood, Mich, U. S. A.

GOLDEN ITALIAN QUEENS

50c EACH, Postpaid, by Return Mail is a REAL BARGAIN when you stop to consider that they take on all comers, regardless of breed.

Also PACKAGE BEES at minimum Marketing Agreement prices.

SPOERRI APIARIES
ST. BERNARD P.O., LOUISIANA

Italians Caucasians

QUEENS

1, 75c; 10 or more, 65c each, by return mail, postpaid.

Large orders several weeks in advance, deduct 10%. Safe delivery with satisfaction.

A part of every sale will be paid to the American Honey Institute.

HONEYBEE APIARIES
E. W. Peterson, Mgr.
SANDWICH, ILL.

WE DO HIGH CLASS JOB PRINTING.
SEND US YOUR ORDER
THE A. I. ROOT COMPANY, MEDINA, OHIO

WORLD WAR VET. **Morrison's Northern Italian Queens** MEMBER V. F. W.

Comrades: You can not produce a honey crop with weak colonies headed by old worn-out queens. Requeen with my stock. I specialize in rearing thrifty prolific queens, with 10 years of selective breeding back of them. If you are not satisfied I do not want your money.

———PRICE, 55c EACH, ANY NUMBER———

WEST BRANCH APIARIES, GROVER HILL, OHIO

→ Morrison's Northern ←

Three-banded or Leather-Colored Italians. Our foundation stock comes direct

→ From Northern Italy ←

———QUEENS———

1 to 25.....60c	25 to 50.....55c
50 or over.....50c	Tested.....$1.00

The Cloverdale Apiaries, Cloverdale, Ohio

Caucasians

Extra gentle, prolific, long tongue, little swarming, dependable workers—10% to 40% ahead of Italians. Wintered here out-of-doors and bred in a climate like their native land—severe winters—cold windy springs—thus insuring their good qualities. Foundation stock from mountainous province of Terek, Caucasus.

Carniolans

Prolific at all times, very gentle, best of winterers, build beautifully white combs, most excellent workers. My Carniolan queens headed colonies producing 435 lbs. extracted per colony over the whole yard. 28 years' experience with them. Have supplied many State Agricultural Colleges and Experiment Stations with them. My own and Jan Strgar imported strains.

Prices—Untested queens, 1 to 6, 60c each; six or more, 50c each. Tested, $1.00 each.

Both races winter better than average Italians. Both races build up more readily during the unfavorable springs of our eastern and northern states and are ready for the early flow. Both these races will improve your Italians in gentleness and honey gathering. Put in some of these fine queens during September and October to begin the season of 1936. Replace all old and failing queens and those cross ugly colonies with gentle bees.

Albert G. Hann

GLEN GARDNER, NEW JERSEY

"YES"

QUEENS VIA RETURN MAIL. NO DELAYS. I SHIP WHEN YOU WANT THEM.

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PRICE LIST
SELECT UNTESTED QUEENS, 50c EACH. SELECT TESTED, $1.00 EACH.

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ACCREDITED AND CERTIFIED BY ALABAMA STATE DEPT. OF AGRICULTURE.

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ALL QUEENS GUARANTEED PURELY MATED

•

W. E. HARRELL

Formerly Hayneville Apiary Co.
HAYNEVILLE ALABAMA

——A WHOLE SEASON'S HONEY FLOW AT STAKE——

Q U E E N S

—BEAUTIFUL FIELDS OF CLOVER.
—BLOSSOMS LOADED WITH NECTAR.
—A RICH HARVEST WAITING
—FOR HONEY-GATHERING BEES.

But hives with just bees are not enough. Root bees from imported Italian stock deliver the goods—noted for gentleness, hardiness, etc.

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DO NOT GAMBLE WITH QUEENS

BUY ROOT QUEENS

FOR SATISFACTION

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NORTHERN BRED ITALIAN QUEENS

ONLY 75c EACH.

5 to 24, 70c each. Over 25, 65c each. Outside U. S. A. and Canada, add 25c per queen to cover extra cost.

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THE A. I. ROOT COMPANY
MEDINA, IHIO

Q U E E N S

Root QUALITY BEE SUPPLIES

Root QUALITY BEE SUPPLIES

Quality Bred Italian Bees and Queens

Following the greatest package season in our history, we are now on the job prepared for the largest queen business.

Highest quality queens and prompt service on any size order.

York Bee Company
The Home of Quality
Jesup, Georgia

LADY-LIKE CAUCASIANS

OUR MATING GUARANTEE IS YOUR PROTECTION

Every queen is guaranteed to be mated to a pure Caucasian drone. You are the judge. We replace any queen not positively pure Caucasian and purely mated.

• • •

SEND FOR FREE CAUCASIAN CIRCULAR

Queens: 50c remainder of season.

Breeders, $5.00 each. Export queens, $1.00 each. Delivery guaranteed only in U. S. and Canada.

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CAUCASIAN APIARIES
BROOKLYN, ALA.

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